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Subscription Rates—Present special rate of two years for $1.00. Single copy, 10 cents. Special Canadian subscription, two years for $1.75. Foreign subscription, $1.50 for two years. No yearly subscription. **Discontinuance**—Subscription stopped on expiration. No subscriber will be run into debt by us for this journal. **Change of Address**—Give your old address as well as the new and write the name to which the journal has heretofore been addressed. **Remittance**—Should be sent by postoffice money order, bank draft, express money order or check. Contributions to Gleanings columns solicited; stamps should be enclosed to insure return to author of manuscript if not printed. **Advertising Rates**—Advertising rates and conditions will be sent on request. Results from advertising in this journal are remarkably satisfactory. **Advertisers' Liability**—The publishers use utmost diligence to establish in advance the reliability of every advertiser using space in this journal.

Entered as second class mail matter at the Postoffice at Medina, O. Printed monthly.

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Geo. S. Demuth and E. R. Root, Editors; H. H. Root, Assistant Editor;
M. J. Deyell, Business Manager.

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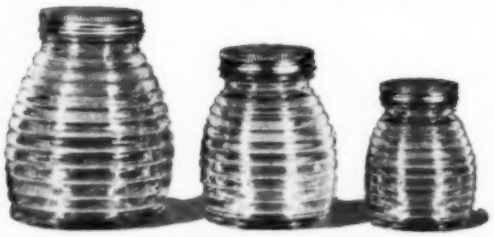

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Gulf Coast Bee Company, Houma, La.

Honey Prospects and Markets

U. S. Government Report of June 15 Summarized.
(Information from Producing Areas for first half of June.)

California Points: Southern California—The desert slopes, it is thought, will produce quite heavily if the weather continues favorable, and the quality of the honey so far extracted is said to be much superior to that of a year ago, much of the sage honey approaching water white. The flow of sage honey is said to be the largest since 1926. Early reports of a large flow of orange honey were based on the fact that weather conditions were favorable and individual colony yields were high. However, recent inquiries indicate that the total amount of orange honey in this year's crop may not exceed that of last year because so many producers placed their colonies in the sage locations rather than in the orange groves. A little new crop alfalfa and cantaloupe honey is being extracted in the Imperial Valley but extracting there is not yet general. Bees have been active since the beginning of the season and even experienced beekeepers have found it difficult to control swarming, with the mother colonies weakened or depleted in many instances. Sales direct to consumers continue fairly good, but large lot purchases are slow. The market price continues about steady, though price cutting on the part of a few has weakened the market. Sales in ton lots or more are reported to range as follows, per lb.; Orange, water white, mostly 4½c; occasional sales higher; extra white, 4-4¼c; few sales up to 5c; white, mostly 4c; some, 4½c, and some distress lots lower; extra light amber, 3½-3¾c; light amber, 3-3½c; sage, water white, 4½-5c; extra white, 4¼-4½c, including 1 car at 4½c; white, mostly 4c; extra light amber, 3½-3¾c; light amber, 3½c; old crop light amber buckwheat, 3¼c; light amber, mixed flowers, 3c. Light amber to extra light amber alfalfa offered around 3½c per lb. Beeswax, 8-11c per lb.

Intermountain Region.—Stocks of honey are getting increasingly less. Though occasional beekeepers still have considerable honey on hand, in most areas only occasional scattered lots remain unsold. Taking the section as a whole, it appears that a better yield from sweet clover is anticipated this year than during the past two years. No sales of large lots reported, but occasional 60s white to water white extracted have sold around 7c per lb.; small pails, 8-9c per lb; 1 lot, 6¾c per lb. without cans or cases. Off-grade white comb honey has sold at $2.50 per case. Little demand for beeswax, and it is weaker at 12c per lb. in trade.

North Central and East Central States—In Ohio, Indiana and Illinois conditions are irregular, based primarily upon the rainfall which has been received. Recent showers, however, have greatly improved conditions throughout most of this belt. Much sweet clover is said to have frozen out. Little swarming reported. Very little movement of honey, and not much honey reported unsold. White extracted 60s reported moved at 6-7c per lb.; light amber 60s, 6c; small pails, 7½c per lb.; amber, 60s, 4½-5c; small pails, 5c per lb. No. 1 comb honey has moved at $1.92-4.00 per case, according to color and grade.

New York.—Recent frosts and unfavorable weather have delayed the clover blossoms. The

FOR SALE—250 stands of bees, state inspected; 600 new supers. Kuster, Wheatland, Wyoming.

HARRISON'S
GOLDEN ITALIAN QUEENS & PACKAGE BEES

BETTER SERVICE AND QUALITY. LOWEST PRICE EVER KNOWN. LOOK AT THIS: 2-lb. combless package or 2-frame nucleus, with untested queen, $1.25; five for $6.00; 3-lb. package, or 3-frame nucleus with untested queen, $1.65; or five for $8.00. Untested Italian queens, four for $1.00.

Satisfaction guaranteed or your money back. No disease. Express rates off ⅓. Ask your express agent. Another big factor in reducing the cost of package bees.

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30c Each
Any Number
LOW PRICES, LARGE APIARIES, RESPONSIBILITY
Red Stick Apiaries
Post Office, Montegut, La.
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Queen Introducing Powder
Release queen at once with one operation. Money refunded if not pleased with results.
Price, ten packages, $1.00
$8.00 for 100 packages
A. H. Schmidt
Hugo Minnesota

weather has been cold for several weeks and often dry, except in the northeastern part of the state, where the rainfall has been heavy. Grass of all kinds is likely to be short. Few sales white extracted reported at 5½-6½c lb.

Summary.—The past two weeks have greatly improved prospects for a good honey flow this season. In spite of heavy winter and spring losses, which were far greater than anticipated earlier, weather conditions and the good early flow of pollen and nectar permitted colonies to build up exceptionally well, aided in many cases by package bees from the South. Rainfall has, in most leading honey producing sections, been sufficiently adequate to bring along honey plants to exceptionally good condition. The dandelion flow was unusually heavy, and bees have been working actively on yellow sweet clover and white clover, with white sweet clover about in bloom.

Although if weather conditions for the remainder of the season are favorable a crop of honey larger than that of last year is considered probable in most areas, market conditions show no improvement, and honey, on the other hand, is said to be selling slower. Demand for large lots of honey is extremely light, buyers preferring to hold off until the size of this year's crop and the prevailing market price are more certain. The sage crop in California and the horsemint flow in Texas are reported above average, with the California orange crop about the same as that of last year. Beeswax is slightly weaker, with little demand reported.

Monthly Report of Honey Producers

Early in June we sent the following questions to honey producers: 1. How does the honey flow if any) thus far compare with normal? Give answer in per cent. 2. What is your estimate at this time of the 1932 honey crop in your region as compared with the average during the past five years? Give answer in per cent. 3. At what price has honey been sold, or contracted for, if any, in large lots (carload or less) in your locality during the past month for (a) extracted honey, per pound? (b) comb honey, fancy and No. 1, per case? 4. What are prices when sold to grocers in case lots of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) comb honey, fancy and No. 1, per case? 5. What is the retail price to consumers in your locality of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) comb honey, fancy and No. 1, per section? 6. How is honey now moving on the market in your locality? Give answer in one word as slow, fair, or rapid. 7. Is there any of last year's honey left in the hands of producers in your locality? If so, what per cent of last year's crop was carried over? The answers are tabulated as follows:

State. Name.	Honey flow.	1932 crop.	Large lots. Ex.	Large lots. Comb.	To grocers. Ex.	To grocers. Comb.	Retail. Ex.	Retail. Comb.	Movement.	carry-over.
Ala. (J. M. Cutts)	50	50			$.40		$.65	$.20	Slow	35
Ala. (J. C. Dickman)	80				.30		.45		Slow	
Ark. (J. Johnson)	50	50						.15		25
Calif. (L. L. Andrews)	75	100	.04¼				.52	.17	Slow	0
Colo. (J. A. Green)	100	75			.50		.65		Slow	20
Conn. (A. Latham)	50	500			.60	5.00	.80	.30	Fair	5
Fla. (C. C. Cook)	25	25			.40		.55		Slow	100
Fla. (H. Hewitt)	30	50			.50		.65		Slow	0
Ga. (J. J. Wilder)		10	.06		.40		.55		Slow	15
Ill. (A. L. Kildow)		60					.50			0
Ind. (T. C. Johnson)					.65	3.00	.80	.20	Slow	1
Ind. (E. S. Miller)	75	75			.60	3.60	.75	.30	Slow	40
Ind. (Jay Smith)	100	100			.60	3.20	.75	.20	Slow	25
Iowa. (E. G. Brown)	110	120			.65		.75		Slow	0
Iowa. (Frank Coverdale)	150	10					.40	.20	Slow	0
La. (E. C. Davis)	50	50			.45		.60		Slow	20
Me. (O. B. Griffin)	110							.35	Slow	0
Md. (S. G. Crocker)	100	100			.75	4.80	1.25	.30	Slow	5
Mich. (Ira D. Bartlett)		100			.50		.60		Fair	2
Mich. (E. D. Townsend)			.07						Slow	
Minn. (F. W. Ray)	110		.05¾		.42		.55		Slow	10
Minn. (B. L. Morehouse)	80	85	.06½		.50		.55		Fair	15
Nebr. (J. H. Wagner)	80	80	.06		.50	3.00	.60	.15	Slow	20
Nev. (E. G. Norton)		25	.04½						Slow	
Nev. (G. C. Schweis)	100				.30	3.00	.70	.17	Slow	
N. Y. (Adams & Myers)	100	100			.45	3.00	.60	.20	Slow	
N. Y. (Geo. B. Howe)					.47½		.65	.20	Fair	
N. Y. (F. W. Lesser)			.06½		.40		.50		Slow	2
N. C. (C. S. Baumgarner)	100	125			.75		.90	.20	Slow	0
N. C. (W. J. Martin)	80	80	.04½		.50		.70		Slow	25
N. D. (Chas. Engle)					.45		.55	.20	Slow	0
Ohio. (J. F. Moore)	10				.50		.75		Slow	5
Ohio. (R. D. Hiatt)	100	100			.60	3.50	.80	.20	Fair	8
Okla. (Jos. Heuelsen)	100	100			.75	2.80	.85	.25	Fair	0
Okla. (C. F. Stiles)	80	70					.80	.20	Slow	0
Ore. (H. A. Scullen)	100	100			.37½		.47	.13	Slow	25
Pa. (Harry Beaver)			.07		.50		.60		Slow	2
Pa. (D. C. Gilham)	70	60			.75	4.50	1.00	.25	Slow	4
S. C. (E. S. Prevost)	75	75			.55		.67½		Fair	0
S. D. (L. A. Syverud)		120			.45	3.60	.59	.20	Slow	0
Tenn. (J. M. Buchanan)	50	75					1.00		Slow	0
Texas. (T. A. Bowden)	50	75			.45		.55		Slow	0
Texas. (J. N. Mayes)	25	50	.05	4.20	.25	4.20	.40		Fair	0
Texas. (H. B. Parks)	110	100	.05		.45		.65		Fair	15
Utah. (M. A. Gill)	50	80			.30		.40	.15	Fair	0
Va. (T. C. Asher)	10	20			.50	3.00	.75	.20	Slow	20
Wash. (W. L. Cox)	100	100							Fair	0
Wash. (G. W. B. Saxton)	100	100	.05½		.37½		.41½		Fair	0
W. Va. (W. C. Griffith)	100	125						.15	Slow	75
Wis. (N. E. France)							.75	.20		0

July Bargains

SECTIONS

4¼x4¼x1½" No. 2 Plain, per 500..$2.50
4x5x1⅜" No. 2 Plain, per 500..... 2.50
4¼x4¼x1⅞" No. 2 Beeway, per 500. 3.50
4x5x1⅜", No. 1, Plain, per 500..... 3.75
4¼x4¼x1½", No. 1, Plain, per 500.. 3.75

SHIPPING CASES

Single tier, clear basswood, glass fronts.
For 12 sections, 4¼x4¼x1⅞", per 10 $2.00
For 24 sections 4¼x4¼x1½", per 10, 2.30
For 24 sections 4x5x1⅜", per 10.... 2.30
For 24 sections 4¼x4¼x1⅞", per 10 2.50

Double Tier

For 24 sections, 4¼x4¼x1⅞", per 10 2.65

CORRUGATED PAPER SHIPPING CASES

For 24 sections, 4¼x4¼x1½", per 10 1.50
For 24 sections 4x5x1⅜", per 10.... 1.50

STANDARD HIVE BODIES AND METAL COVERS

10-fr. bodies, empty, per carton of 5 2.25
10-fr. bodies with frs., per carton of 5, 3.70
10-fr. met. covers, with inner cov., 5, 3.00
8-fr. metal covers, no inner covers, 5, 1.95

SHALLOW EXTRACTING SUPERS

10-fr., 15⅞" wide, empty, per 5.... 1.00
10-fr., 15⅞" wide, with frs., per 5, 2.25

FREE—Cotton bee veil with every order for $5.00. All above subject to prior sale.

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	500	1,000
4¼x4¼x1⅞ 2-beeway	$3.30	$6.50
4¼x4¼x1½ plain	2.80	5.50
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Honey Containers

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Wrap your comb honey in cellophane and get a quicker sale and more money. Our offerings and new prices will enable you to reduce cost of selling.

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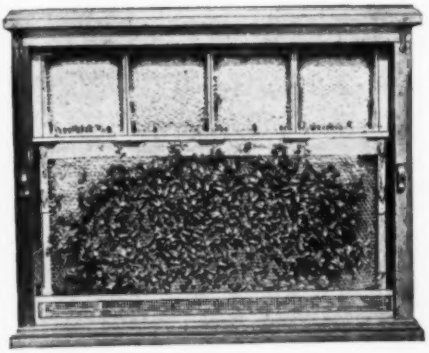

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Wraps the honey, not the package. Why wait when the future of comb honey is greater than ever before?

Get our prices on draining equipment and packages. 12 years' success and experience means much to you.

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Let us keep

FAITH

in the bees.

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Root Quality supplies are most satisfactory.

Prices are much reduced.

Your orders will be filled promptly here.

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For your convenience we have included a coupon with this ad. Use it or write us a letter.

OUR GUARANTEE—All goods purchased may be returned if unsatisfactory and money cheerfully refunded. No questions asked.

OUR SERVICE—While we ship all over the country, we can give special service to those located in the East—New York, Penn., New England, and Atlantic Seaboard states.

W. T. FALCONER MFG. CO.
FALCONER, N. Y.

W. T. Falconer Mfg. Co., Falconer, N. Y.

Gentlemen: Without obligation on my part please quote prices. I have ..... colonies.

..... Hives ..... Sections

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Name .....

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"I have used TWELVE THOUSAND pounds of Dadant's Wired Foundation, so I KNOW what results you can expect from it. No better combs can be built on any foundation. The cells are worker-cells from top bar to bottom bar. The Steel Hooks make it impossible for the combs to pull loose at the top bar, an important thing with me, as my honey is trucked to a central plant.

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When you lay a sheet of Dadant's Improved Crimp-wired foundation in a Lewis Slotted Bottom Bar Frame you will be surprised at how quickly it is put up. A speedy, safe job.

And you will get real comb strength that you can not get in any other way. This strength passes through the sheet in all directions. It makes combs that will work for you year after year, combs that will stand the abuse of modern beekeeping where large operations and quick work are essential.

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In all Dadant's Foundation the wax is tested, so you get absolutely pure beeswax, just as your bees make it.

Dadant & Sons, Hamilton, Illinois

Makers of Famous Foundations—
Crimp-Wired, Plain, Surplus

DADANT'S FOUNDATION
CHOICE OF EXPERT BEEKEEPERS

Gleanings in Bee Culture
JULY, 1932

Dr. Phillips Returns to United States

Doctor and Mrs. E. F. Phillips, who had expected to spend the remainder of the summer in Europe, were called home on account of the illness of their youngest son, Howard. This made it necessary for them to cancel many engagements abroad, including the International Beekeeping Congress, July 16-23.

Recent Literature on Bees

New literature on bees that has reached the Editor's desk during the month include a revised edition of "Outapiaries," by M. G. Dadant, published by the American Bee Journal; "Studies on the Changes in Nectar Concentration Produced by the Honeybee," by O. W. Park, Iowa State College of Agriculture; "Report of Maryland State Beekeepers' Association," reprinted from the 1931 Annual Report of the Maryland Agricultural Society; "Report of the State Apiarist of Iowa," by F. B. Paddock, and "Bees and Their Care," by J. A. Munro, North Dakota Agricultural College.

International Beekeeping Conference

The IXth International Conference of Apiculture and the XIIIth International Conference of the Apis Club will be held in Paris, France, July 16 to 23. These conferences are being held in connection with the Vth International Entomological Congress which has an apicultural section. There will thus be assembled in Paris this month a galaxy of noted beekeepers and research workers in beekeeping which should make this one of the most interesting meetings ever held. It is unfortunate that economic conditions are such as to prevent many attending this meeting who would otherwise do so.

Eradication of American Foulbrood

The results of experiments by the Wyoming Experiment Station as reported in the article "Shaking Treatment for American Foulbrood," beginning on page 425 of this issue, are quite in line with the experience of many beekeepers who have eliminated this disease from their apiaries by the shaking treatment. However, when it comes to the eradication of disease from large areas, the shaking treatment has been disappointing. In the early days of apiary inspection, the inspectors depended upon the beekeepers to clean up the disease when found, but they soon learned that the average beekeeper is not careful enough to carry out safely the shaking treatment. The failure of the shaking treatment in the eradication of American foulbrood is in faulty application rather than in the method. Apiary inspectors almost universally have been compelled to burn the diseased material before leaving the premises in order to eradicate the disease from the neighborhood.

Weather Conditions Affect Swarming

Throughout much of the clover region, weather conditions during the early part of the honey flow were such that the bees could work freely in the fields during the greater portion of the day. When the field bees were well at work, the hive appeared almost depleted of bees. When plenty of empty combs were given in the supers to attract the young bees out of the brood-chamber, the brood combs were surprisingly free of bees. There was but little if any danger from swarming while those conditions lasted. In many cases, therefore, swarming has occurred late if at all. This was quite in contrast with conditions too often prevalent in the clover region, when, through adverse weather conditions, the brood-chambers become crowded with bees which in turn quickly brings on the swarming fever, or causes many colonies to get the habit of loafing. It is here that beekeepers in the West often have a decided advantage because of better weather for field work and a more nearly constant supply of nectar.

This usually results in much less swarming than occurs in the East where weather conditions often cause congestion within the brood-chamber, the field bees staying at home because of erratic nectar secretion or a spell of rainy weather.

Preparing for Next Season

It is not too early, even in the busy days of the honey harvest, to begin laying the foundation for next year's honey crop. Often severe losses are sustained and opportunities for improvement are overlooked because beekeepers are so busy harvesting their crop and preparing it for market that they have little if any time to look forward to another season.

In localities which do not have a fall honey flow, the latter part of the early honey flow is an excellent time for replacing all old and otherwise inferior queens. Even though it may seem difficult to do in these busy days, often the most profitable work in the apiary is that of replacing poor queens with good ones while this can be done advantageously.

Another important stone in the foundation for next year's honey crop in localities not having a fall honey flow is that of providing a super of honey (food chamber) for each colony to be sure to have an abundance of stores for fall, winter and spring. In many cases beekeepers who have thus supplied their colonies with a superabundance of honey, have been astonished with results in the strength of the colonies the next season, far beyond anything they had ever known before. This is especially true in localities which do not have a fall honey flow.

The Spirit of Work

However much the labor of caring for bees outside the main honey flow is reduced in order to cut down costs of production, it is usually profitable to almost live with the bees during the main honey flow. There are so many little things the beekeeper can do to improve the spirit of work in his colonies that at first appear to be non-essential, that it usually does not pay to use too many short cuts during the height of the season.

Providing shade, adequate ventilation, keeping down the weeds around the entrances, and many other items to make the colonies comfortable often make a great difference in the size of the honey crop. Adding supers at the right place and at the right time to expand the work of the colony acts as a powerful stimulant to more energetic work on the part of the bees. It sometimes happens that a colony of medium strength in which conditions are favorable for energetic work, will surpass a much stronger colony which is inclined to loaf during the honey flow on account of some adverse conditions that could have been quickly corrected if discovered in time.

Sometimes a few hours spent in an apiary during the height of the honey flow to make sure that everything is running smoothly for every colony, rearranging supers, if necessary, to entice more and more of the young bees from the brood-chamber, giving additional supers where necessary, and arranging many little items to keep the bees comfortable and contented often brings surprising results in increased surplus honey. To bring about the highest possible spirit of work in a large apiary, or a series of apiaries, of strong colonies certainly calls for great skill on the part of the beekeeper.

Fermentation in Comb Honey

The heavy losses from fermentation in comb honey last season in various localities have caused many comb-honey producers considerable worry as to the proper care of comb honey after taking it from the hives. Apparently, trouble from fermentation in honey has increased during recent years as sweet clover has spread through much of the clover region, causing many to wonder if sweet clover may be responsible. Whatever the cause, it is apparent that greater care is necessary to have the honey well ripened and subjected to the proper environment after removal from the hive.

In some localities where there is considerable sweet clover, it is difficult to take off well-ripened honey without having a considerable amount of raw nectar in some of the open cells at the edges of the comb. Even after the honey has been sealed, the bees use some of the vacant distorted cells at the edges and depressions in the comb as temporary storage and evaporating space. Often these vacant spaces at the edges of the comb will be filled with thin nectar in the afternoon, and emptied during the night. By

placing the escape early in the morning, it is often possible to remove surplus honey that is free from raw nectar.

If supers taken off when they contain a large amount of this raw nectar are piled in tight piles, there is danger of the surplus water in the raw nectar being absorbed by the sealed honey, thus thinning it down enough to permit the ferments to grow. Often fermentation takes place in the thin nectar, which, if the honey is extracted, gives to the entire mass a tartish flavor sometimes sufficient to mask the characteristic flavor.

By piling the supers criss-cross, or by stacking them up as lumber is piled, in a dry atmosphere for a few weeks, comb honey can often be rendered safe from fermentation and honey that is to be extracted can be improved in flavor. If the honey room is on the sunny side of the building, especially if it is just under the roof, the excess of water is quickly evaporated from the raw nectar, but when honey is thus exposed to the atmosphere there is danger that a spell of damp weather may bring about deterioration rather than improvement. In such cases, artificial heat may be necessary to prevent fermentation. When the weather is damp, well-ripened honey is safer in tight piles than when piled in the manner to expose it to the atmosphere.

Forced Supersedure of Queens

The Editor brought about supersedure of the queens in most of his colonies artificially this season with but little labor. In fact, less time was used in the entire procedure than it would have taken to clip the queens.

The colonies were wintered in two stories and had both stories fairly well filled with brood the latter part of May when the supersedure manipulation was carried out. In some cases the chamber containing the queen was set off temporarily, either on an extra bottom or on the inner cover, but entirely separated from the rest of the colony; in other cases the queenles chamber was placed on a moving screen, thus confining the bees. After about an hour and a half, a queen cell, 24 to 48 hours from grafting, was given to each queenless chamber. This precaution of keeping the divisions of the colony separate for an hour and a half before giving the queen cell is not always necessary. It is not necessary to find the queen in this manipulation. By inserting an excluder between the stories four days previously, the presence of eggs will tell which chamber contains the queen.

The hives were then re-assembled, some with the queenless chamber next to the bottom, then an excluder, then a story of empty combs, then an inner cover, with a piece of perforated zinc over the escape hole, and finally the chamber containing the queen. In other cases, the chamber containing the queen was placed next to the bottom and the one containing the queen cell on top, but shifted to one side to form a small opening at one corner to permit the young queen to go out to mate Nine days later the other queen cells built in the queenless portion were destroyed. At the beginning of the honey flow from clover, the chamber containing the young queen was put down on the bottom-board, if not already there, the bees were shaken from the combs of the former middle story, and comb-honey supers were given. The chamber containing the old queen was placed on top of the supers temporarily, and so arranged that the bees could pass through a runway in the supers into the brood chamber below so that the young bees emerging in that chamber would later be automatically added to the colony below.

Practically all the queen cells were accepted, but a few of the young queens were lost because, for experimental purposes, the hives were arranged in various ways.

These colonies with their young queens should go through the season without swarming, even when operated for comb-honey production. By bringing about artificial supersedure of queens previous to the main honey flow so that the young queen will begin to lay at about the beginning of the main honey flow, having established her brood nest on a set of combs of emerging brood, ideal conditions for comb honey production are created, especially since the young bees from the other chamber are later added to the producing colony. Later, most of the bees will be shaken from the combs of the chamber containing the old queen and the chambers will be tiered up on other colonies to have them filled with honey. These are then the food-chambers to be given back to the colonies at the close of the honey flow.

XUM

Taking Off Finished Supers

Charles Mraz

Improved Method of Driving Bees from Supers and Avoiding Robbing at Close of Season

Last summer I used carbolic acid again to drive bees out of supers, making several improvements in the process. The results, I'm glad to say, have been perfect. I took off all my honey with it, both comb-honey supers and full-depth extracting supers, in warm sunny weather and in cool cloudy weather, during the honey flow and after. In short, it has proved so successful and saves so much time and work that I would never go back to any other method. To do so would be like going back to box hives.

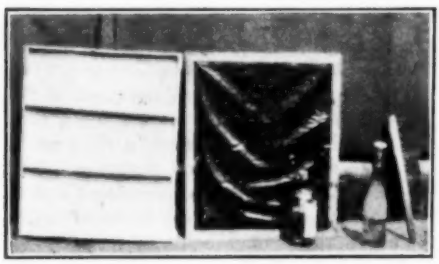


Fig. 1.—Equipment used for taking off honey. At the left is a screen as it appears from the bottom. Next is a top view of a similar screen. The tall bottle contains carbolic acid diluted with water ready for use and the short bottle contains a supply of undiluted acid.

Before describing my method of using carbolic acid, I want to correct the impression some people have that it will leave an odor in the honey. This is not at all true if refined carbolic acid is used. A few minutes after a super is taken off, it is impossible to detect any odor whatever on the honey or super. Crude carbolic acid should never be used, since it does leave an odor on the honey and does not drive out the bees. The carbolic acid to which I refer is the pure, refined product.

Carbolic acid is not really an acid, but an alcohol, phenol alcohol (C_6H_5) (OH), and in its concentrated form is a clear, crystalline solid. It is liquefied by placing its container in warm water, then by adding about 25 per cent of water, it remains liquid indefinitely. In smaller quantities it is usually sold in the liquid form.

Frames for Carbolized Cloths

Fig. 1 shows the equipment used outside of the usual smoker and hive tool. On the left is a carbolic screen showing the bottom and to the right is another showing the top. These screens are made the size of the supers, the frames being made of ¼" x 1" white pine strips. Across the top of the frame is tacked several thicknesses of cloth, such as cheesecloth, and on the cloth is tacked a sheet of black water-proof canvas or sheet metal. Oil cloth isn't very good for this, as the acid would make the oil sticky. Fig. 2 gives an idea how I make the screens. Four or five such screens are usually enough when taking off honey during the honey flow.

During the first season, I did not have the frame, cloth, and canvas attached,

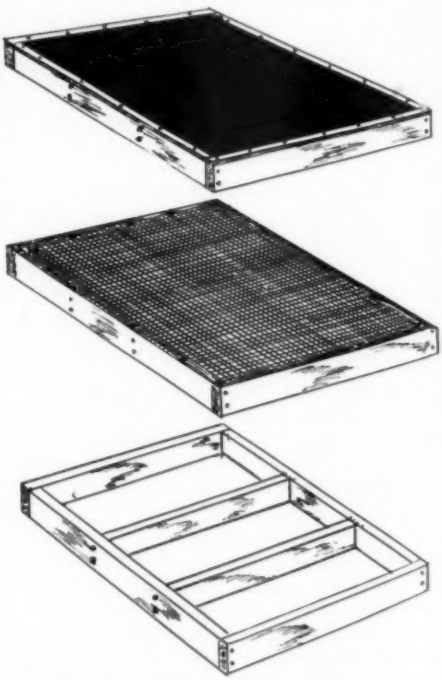


Fig. 2.—This shows the construction of the screen, the bare frame at the bottom, frame covered with several thicknesses of cheesecloth in the middle, and the finished frame covered with a sheet of black canvas at the top.

Fig. 3.—A carbolated screen is placed on top of the finished super wh'ch in turn is on top of the unfinished supers.

which made three separate pieces to handle. The cloth was then carbolized by dipping it into the acid with the hands. Now I carbolize the cloth on the frame with a sprinkler shown in Fig. 1. It is simply a pop bottle with a sprinkling attachment such as the housewife uses for sprinkling clothes.

Proper Strength of Carbolic Acid

By looking closely at the picture of the bottle the carbolic acid and water can be seen in two distinct layers, the bottom layer being the acid. The ratio of acid and water is usually half and half. In very hot weather or climates, less acid is needed. The water and carbolic acid do not mix but make a milky emulsion when the bottle is shaken in sprinkling. In front of the second screen shown in Fig. 1 is a one-pound bottle of carbolic acid.

To carbolize the screen, just sprinkle on enough solution to make the cloth wet without dripping. It is the odor of the acid that drives the bees from supers. A screen can usually be used three to five hours with one sprinkling. A bee brush is convenient to brush off bees that sometimes stay on the bottom of the supers.

Finished Supers Taken Off in Connection With Other Work

My main crop being comb honey, the supers are usually taken off during the honey flow as soon as they are finished. No special trips need to be made in taking off the supers as it is done while going through the hives for swarm control.

Beginning with the first hive in the yard, the supers are taken off and the necessary work is done in the brood-chamber. The supers are then put back on the hives, the unfinished ones first and the finished ones on top. A carbolated screen is then placed on top of the finished super as shown in Fig. 3. The next four or five hives are treated in like manner until all screens are in use. When the next hive is ready for a screen, the super on the first hive is taken off together with the screen as in Fig. 5. On a warm, sunny day, the super will be clean of bees excepting perhaps a few on the bottom that are brushed off. The super is carried away and the screen placed on the next super ready for it. The process is continued until all hives are taken care of.

Fig. 4.—Sometimes a little smoke is blown under the screen to cause the bees to hasten from the super.

If the weather is cool or cloudy, a little smoke blown under the screen (Fig. 4) as it is flapped up and down a few minutes before removing the super or at the time the screen is put on, will put action into

any lagging bees. If the super still contains bees after it is lifted off the hive, stand it on end, blowing smoke through from the top with one hand and brushing bees off the bottom with the other as in Fig. 6. After a carbolic screen is used on

Fig. 5.—When the bees have left the super, it, together with the screen, is quickly placed on end and any bees left on the bottom are brushed off.

a super, the bees are more easily driven out by smoke than when no screen is used.

When there is no robbing, the supers are loaded into the truck as they are taken off. After a little experience they can be taken off the hives as fast as they can be carried away. One day last summer a helper and I arrived at a yard at 9 o'clock; about 11:30 we were on our way home with nearly 100 full supers of honey on the truck, and, by the time we got home, not more than 50 bees were left in the whole load.

When escapes were used, I disliked most of all stripping off honey after the honey flow. I'm sure most beekeepers who have trouble from robbing feel the same way about the job. The bees always manage to rob out a few supers over escapes and when taking off the honey and loading it on the truck, it's a battle with robbers from start to finish. Last year I stripped off all honey from the hives after the honey flow stopped and had very little trouble from robbing.

Removing Supers During Dearth Without Annoyance of Robbers

After the honey flow, the honey, whether in comb or extracting supers, is taken off in the manner described. If the weather is cool, flap a generous amount of smoke into the super as the screen is put on. Eight or more screens should be used to give plenty of time for the bees to get out of the supers, as less time is spent in the brood-chamber this time of the season. When bees are being driven out of supers with carbolic acid, they do not snoop around the supers as when they are on top of escapes.

Have a bottom-board ready for every eight or ten supers to come off. They should be laid solid and level on the ground. As the first super comes off, sprinkle two big tablespoonfuls of Cyanogas on a bottom-board and, if the air is

Fig. 6.—If any bees are left in the super, a few puffs of smoke at the top and prompt use of the brush at the bottom will completely clear the super of the remainder.

dry, sprinkle a little water on the Cyanogas so it will generate fumes more freely. Stack the supers on this bottom-board, keeping the top of the stack covered but the bottom-board entrance open. Any robbers that try to sneak into the

supers will gently and quickly lie down never to rob any more. The bottom-boards are prepared with Cyanogas as they are needed. After all the honey is taken off and stacked up, it can be left without danger from robbers as long as the Cyanogas remains active. Very few bees will go into the bottom-boards and get killed, seldom more than a dozen. I believe Mr. Hahn of New Jersey first described this system of stacking supers over Cyanogas to prevent robbing. It certainly is a great help.

The supers are stacked near the truck so the job of loading can be done and the honey and truck can be on the way home before the bees have time to get any raiding parties organized. The beauty of this system is that the honey can be taken off leisurely. There is no need of rushing as long as the supers are under the influence of carbolic acid and Cyanogas.

In some localities, pure carbolic acid is difficult to get in the local drug store, but if you tell your druggist what you want it for he may let you have it. Last summer I paid 75 cents a pound bottle. This year I'm getting it in 10-pound cans for around 50 cents a pound. If you intend to use carbolic acid this summer, I would advise you to have your druggist order what you need beforehand as they don't carry a big stock of it. If your druggist can't let you have it, perhaps your county agent can help you. About five pounds of carbolic acid will take care of 100 colonies for the season.

Middlebury, Vermont.

Visiting Among Austrian Beekeepers

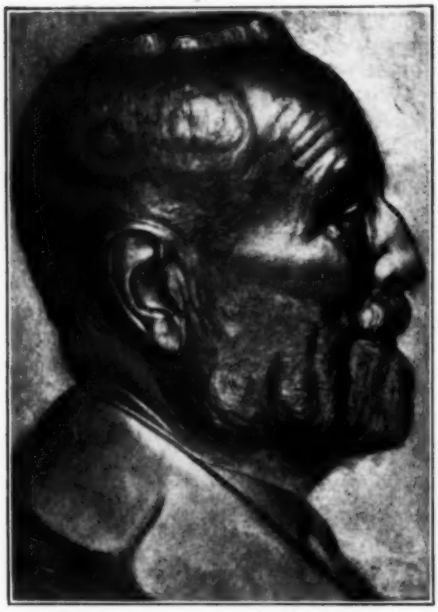
Dr. E. F. Phillips

A Country Rich in Beekeeping History and Tradition as Well as in Scenic Beauty

We entered Austria from Germany on March 21, after a short visit to the mountain village of Oberammaugau, celebrated for the Passion Play held there each ten years. It was our pleasure there to have a friendly chat with Mr. Anton Lang, who took the part of Christ in three of these plays. Entering Austria for an automobile driver is notable from the fact that here one passes on the left and overtakes on the right, which is not a simple thing to do after passing on the right for years. But it can be done, and so far has been done without accidents.

Entrance to the country is also notable from the fact that one crosses a lofty mountain chain, which in late March was covered with snow, making a vast display of natural beauty which can not be described. The first city visited was Innsbruck in the Tirol, a city nestling at the base of mountains on all sides, quite beyond my powers of description. From Innsbruck we drove to Salzburg, all the way through snow and with considerable ice on the roads, not a pleasant day for the driver but nevertheless one not to be forgotten for the beauty of the constantly surrounding mountains of the Tirolian Alps.

Mr. Sepp Schmid, editor of Bienen-Vater, and Secretary of the National Society of Beekeepers of Austria.



A medallion of Dr. Ludwig Arnhart of the Physiological Institute of Vienna, noted for his work on the nature and origin of honeydews.

At Salzburg we were met by Mr. Sepp Schmid, editor of Bienen-Vater, the chief bee journal of Austria which circulates in all European countries and also in America. Mr. Schmid has traveled widely and has visited America, and in ordinary American slang he can best be described as a live wire. His journal shows his energy. It has been our good fortune to have his companionship for most of our trips in Austria, including the one to Jugoslavia. Mr. Schmid came with us to Vienna, the capital city, celebrated for its beauty, the lively nature of its people, and its devotion to the arts.

The first day in Vienna we called on Dr. Ludwig Arnhart of the Physiological Institute, who has so long worked on the nature and origin of honeydews. This is an important work for central Europe, for a considerable part of the honey crop is of insect origin. I had correspondence with Doctor Arnhart for some years, but had no occasion to learn what a delightful, genial person he is. Doctor Arnhart speaks no English and my German is weak, but we get on famously and understand each other well, improving daily.

A Noted Beekeeping School and Museum

In Vienna, the national society of beekeepers maintains a school for beekeeping where regular courses are given, especially for the traveling teachers who are sent out by the society, much as our extension men are sent out by the several colleges of agriculture at home. The director of this school is Th. Weippl, whose papers are well known to beekeeping investigators back home. The school is well equipped for its work and maintains a large apiary in the city.

Nearby the beekeeping school is a museum for beekeeping which is probably the largest and most interesting of the kind to be found anywhere. It is at least equal to the noted beekeeping museum at Weimar, Germany, which we also visited. The Vienna museum contains hundreds of different kinds of hives of all sorts and kinds, all of which have been used and advocated somewhere. It seems a pity that the beginners in beekeeping back home who so often invent hives could not all

The Austrian Beekeepers' School in Vienna, maintained by the National Society of Beekeepers.

visit this museum where they could see all their pet ideas in abandoned equipment. Besides the things indicated, the museum contains much historical material of great value when that day comes for a proper history of beekeeping to be written.

Bee Stings as a Cure for Rheumatism

Several medical men in Vienna have worked on bee stings as a cure for rheumatism, and this work is being continued at present by Doctor Krejci of the Institute of Immunology, connected with the noted medical branch of the university. Work such as this is something which a mere beekeeper should not discuss, it being somewhat dangerous to enter the field of medicine without proper training. Doctor Krejci has great faith in this line of work and he kindly showed me through his interesting laboratory. He has been invited to give a lecture on this work before the Wanderversammlung, the great gathering of German-speaking beekeepers, this summer at Goerlitz, and I hope to hear this lecture.

Still another old acquaintance among writers on beekeeping who is located in Vienna is Mr. Oswald Muck, formerly head of the Beekeeping School but now in the College of Agriculture at Vienna. I have had a photograph of Mr. Muck for several years and it was a great pleasure to meet him personally.

Beekeepers' Association Maintains Central Office

The beekeepers of Austria are thoroughly organized and maintain a central office in Vienna, with Mr. Sepp Schmid as secretary. This organization work is maintained in connection with the office of Bienen-Vater, the official organ. In the office is also located the great beekeeping library of the national society, and I hope that it is no great sin to envy them this library. It is chiefly of books and pamphlets in the German language, but has some great treasures which are now difficult to buy. I have just finished checking their list against that of our beekeeping library at Cornell and find that we are rather well supplied after the purchases which I have made on the present trip. There are still some things in the Vienna library which I have been unable to locate, but I am pleased to note that we have many first editions of the older works which a library always cherishes a little more than later editions. Vienna is not quite so good a place to find beekeeping literature as are some of the cities in Germany, but still I am shipping home a fine supply from here.

Vienna was the former home of Mr. Alois Alfonsus whom many American beekeepers had the pleasure of knowing before his death. Of course the beekeepers here wished to know what his impressions had been of the second country of

A corner of the Beekeeping Museum in Vienna showing a few of the types of skeps used in Europe.

his choice, and it was a pleasure to be able to assure them that he was happy in his work with us.

Side Trips Among Beekeepers

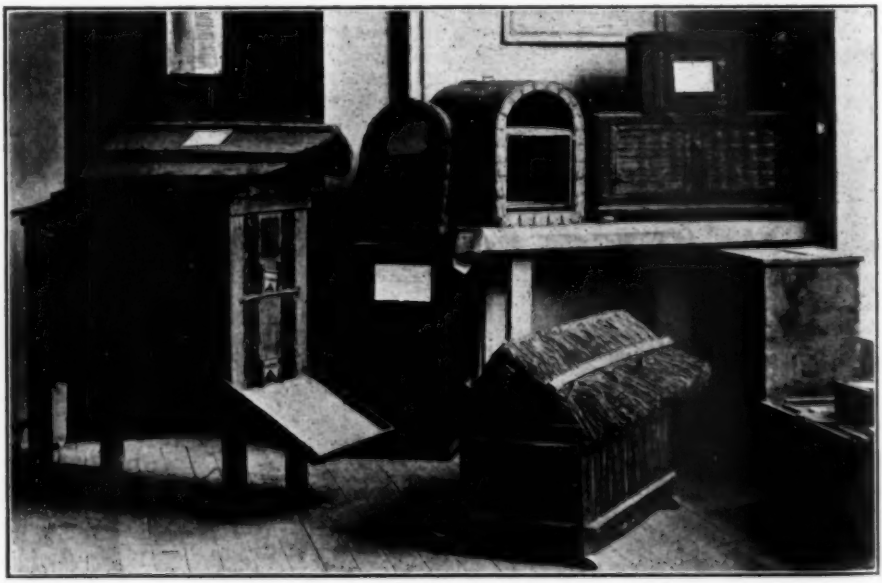
From Vienna we have taken several excursions into the beekeeping sections of the country, one of which extended into Jugoslavia, about which I shall tell in another story. Another trip took us through Styria, a land of great beauty and much interest, and on this trip we were fortunate in having the company of Doctor Arnhart who knows Styria from end to end and loves it all. Here as elsewhere, bee houses are the rule and it is only occasionally that one finds hives out in the open, as most of ours are kept. At Graz we had the pleasure of being shown about by the president of the local beekeepers' society, Mr. Kreidl. It happened that the traveling teachers of Styria were meeting to formulate plans for the coming summer, so we called on them at their meeting.

The greeting of one beekeeper to another in Styria is "Zum zum," in imitation of the buzzing of the bees, and we were thus greeted there. In Carinthia, beekeepers greet each other with "Stich heil," which is best translated by "sting hail," and this greeting was also given us in that region. Of all the greetings which we have heard and received, we like "Zum zum" best, and to get the proper effect one should spell it "Tzum tzum."

Overcoming Language Difficulties

Shortly after our arrival in Vienna, the beekeepers gave a party for us which was an event never to be forgotten. They met in the hotel where we were staying and we all sat at tables, each ordering what he wished of either liquid or solid refreshments. The chairman of the meeting was Mr. Buchmeyr, President of the Austrian Imkerbund. The speeches were made in German, all except the one which I was asked to make, but Mr. Schmid knows English well and interpreted for me. Not only was he able to interpret, but he is so familiar with American beekeeping methods from his reading that when questions were asked, he answered most of them with explanations which made the situation clearer than I could have done through an interpreter. Altogether we had a glorious evening. After the close of the meeting we did the customary thing for Vienna, by going to a coffee house for a second round of conversation, so that we returned to our hotel at a late hour.

It is, of course, impossible to give any adequate idea of the beekeeping of a country in a short story such as this. The situation in Austrian beekeeping can not



Hives in the Beekeeping Museum in Vienna showing a transition from skeps to frame hives.

be made clear, however, without mention of the fact that the country was greatly decreased in size after the World War. Hungary was made a separate country, the country of Czechoslovakia was formed to the north, and a part of former Austro-Hungary cut off to form part of Jugoslavia. This left Austria a much

The Christ rose in bloom. This is a fine source of early pollen in the mountains and was in full bloom at the time of the author's visit.

smaller country than before, and this, of course, affected beekeeping chiefly through changes in the national organization. It left a relatively small country with a very large capital city and the situation seems not to be entirely satisfactory. We glean from the newspapers that there is much talk of a change in the boundaries and of combinations to make a larger central European state, but these are questions which a beekeeper should not attempt to settle.

Most Colonies of Bees Kept in House Apiaries

Before closing this story, mention should be made of the fact that some years ago Mr. Franz Richter, a prominent beekeeper here, tried to reform European beekeeping methods by advocating hives comparable to those such as we use at home. His efforts apparently did not meet with great success, yet one or two fine apiaries have been established according to his recommendations. They seem to be quite successful, so in time the beekeepers of Austria may partially abandon the house apiary. It is not to be expected that hives opening at the top and placed outside by themselves will ever be universally used in central Europe, for habits are strong things and hard to break. I have asked many beekeepers about the types of hives used, and each one has been able to give me an incontrovertible reason why such hives as we use could not be used here. Since no two seem to have the same reason, the reasons must be large in number.

Our stay in Austria has been a wonderful experience and we leave with regret, sorry that we can not prolong the visit

A temporary apiary in southern Austria, moved to the mountains for the summer honeydew crop.

to many weeks. We leave many beekeepers behind whom we can count as friends, and their hospitality toward us can never be forgotten. If only we could speak German fluently, there are many things which we could discuss with profit, at least to us. We hope to visit Vienna again during the coming summer, when everything will be green, and we are sure to enjoy that brief visit also.

Vienna, Austria.

XUM

Comb-Honey Production Without Swarming

Jay Smith

Rearing Brood in One Hive and Producing Comb Honey in Another

I do not produce comb honey in a large way for that is a business in itself. For best results it should be produced in large quantities that will pay to ship to cities where good prices may be obtained. When attempting to sell locally, one is in competition with the farmer beekeeper, who sells for what he can get. One man told me that he had bought good comb honey for 4½ cents per section.

However, if one is an expert at comb-honey production and produces snow-white sections, well filled, he can find a buyer who will take the entire crop year after year. Dr. Miller had such a buyer, and many today dispose of their crops at good prices to the same buyer year after year. In order to have a steady demand at good prices, the honey must be fancy. Sections must be well filled and cappings must be white—free from travel stain and propolis. To produce such sections and secure the maximum number with the minimum of unfinished sections is the work of an expert of the highest order.

As we are busy with other work, we can not give close attention to comb-honey production; yet with the system I have used in a small way, I have produced most excellent honey with but little labor and no swarming. I have felt for some time that brood and comb honey can not be produced in the same hive at the same time to best advantage. To produce comb honey, the colony must be crowded or the sections will not be well filled. A colony thus crowded can not rear brood to the best advantage and this crowded condition causes an increased number of swarms.

Bees Reared in Outyard Utilized in Comb-Honey Yard

For best results in brood-rearing, plenty of empty-comb room is necessary. Both conditions can not exist in the same hive at the same time. Several years ago the question came to me, why not rear brood in one hive and comb honey in another? This I have been doing in a small way, and it has given such splendid results that I shall use it exclusively in the future.

To use this system to the best advantage, one should have an outyard; but good results may be obtained by using bees from colonies in the comb-honey yard. For the comb-honey hive, I use the regular shallow extracting super with shallow extracting frames containing starters only, or a little comb in the two outside frames to catch the first pollen and also to make the bees feel at home. About a week before the honey flow opens, as nearly as I can estimate, a package of bees with queen is brought from the outyard and shaken into this prepared hive. The colony from which the package was taken is given a laying queen or a ripe queen cell. After the new colony has built some combs and the queen is laying well, a super is put on.

When the honey flow is on in earnest, it is time to build the colony up to great strength. The first package just put in should contain about three pounds. However, two pounds will answer very well. The object of starting them early is to get them under way so there will be no loafing when the honey flow is on. We now go to the out-apiary and bring up packages containing twelve or fifteen pounds of bees and in the evening they are dumped at the entrance of the comb-honey hive. If any comb in the super has been drawn, this super is taken off and another put under, then the one with drawn comb is put on top. If the honey flow is heavy, a third super will have to be given at once. Plenty of room may be given, but I place all remaining supers on top rather than under, for I want the supers to be finished next to the brood-chamber.

Brood-rearing Colonies Used to Produce Extracted Honey

In taking bees from the outyard, I take only such bees as can be spared and leave enough that brood-rearing may be carried on to the best advantage. The brood-rearing colonies should have two ten-frame hive bodies or a Jumbo and shallow super. I have never been able to get

strong colonies in anything less. Extracting supers are given to these colonies so they can produce extracted honey and rear brood. Bees may be taken from colonies too weak for comb-honey production and by giving them to the comb-honey colony they do their bit. It is well to weigh the bees in order to know how many you are putting into the comb honey hives.

Many have asked how I keep them from fighting when I shake bees from different colonies into the same package. I do not keep them from fighting for they don't fight. I have shaken bees together from several different hives to make up packages to stock mating hives for a number of years and so far as I know there has been no fighting. Likewise when I dump bees into the comb-honey hive, there will be no fighting nor will the queen be killed if the colonies have about three pounds of bees to protect their queen. However, should the queen be killed, it would do no harm for we are not depending upon her for bees. She is there merely to keep the colony normal. If she is killed and the colony has brood, I can never see but that they work fully as well as though they have a queen. However, they should have brood, for a queenless and broodless colony does not work well.

Strong Colonies Fill Supers Quickly

With this great horde of bees, sections will be filled as by magic. By this method the honey is capped white and capped to the wood. The place to get the sections finished is next to the brood-chamber and as all combs are new, being built from starters, the sections will be white with no travel stain or propolis. When sections are finished next to a brood-chamber containing old combs, there is more or less stain on the cappings. As soon as most of the sections are finished, the super is taken off, the sections sorted, and those that are unfinished put back.

The comb-honey colony will become weaker in a short time but the colonies from which the bees were taken will become stronger. Therefore, in 10 days or two weeks, depending upon the strength of the colonies run for comb honey, the bees in the outyard are again shaken and enough dumped in front of the comb-honey colonies to bring them up to the desired strength. This process may be repeated as often as desired, depending upon the length of the honey flow.

Some Advantages of This System

What are the advantages of this system? In the first place it effectively prevents all swarming both in the comb-honey yard and in the outyard. As all colonies are built up to great strength, the finest whitest comb honey is produced with no stain on either the cappings or the wood. These are the sections that bring the top price. While I have been unable to determine results accurately, I believe that such colonies will produce more honey than colonies which are left in the regular brood-chamber, for, in such cases, there is swarming and loafing.

To be sure, this colony has to build a set of combs. However, as we use a shallow super, this costs the bees but little. Again, we must remember that there are as many bees in this colony as there would be in two or three ordinary colonies, therefore the building of the extra combs is a trifling matter. Again, as this colony is hived in an empty super, it is the same as a new swarm; and I believe it works with enough added vigor to more than make up for the extra combs they have to build. This comb is not a loss for the wax can be rendered.

When the honey flow is over, this colony may be set on top of a regular hive with drawn combs, if increase is desired. The honey in the super may be extracted and the wax rendered. The frames are cleaned and new starters are put in for the following season. If no increase is desired, the queen is removed and the colony united with another.

Modification Suitable for Small Apiary

This system may be used where one has no outyard by keeping three colonies close together. First, one is shaken into the empty super which is placed on the stand of the center colony and the colony is moved back with the entrance turned the other way. Later the other two are shaken in and their hives moved back. These colonies are then moved back to their former position a little at a time, and, as the comb-honey colony becomes weak, all three are again shaken into the comb-honey colony.

This is more work and all colonies can not be made of equal strength as is the case when bees are taken from the outyard. I believe a better plan would be to shake as many bees in a package as are needed, give them a frame of brood, move

them to a location two miles away, leave them there three or four days, bring them back, and shake as described. I have done this in stocking mating hives and it works exactly the same as though the bees were taken from an outyard.

For packages I use a regular hive body with a piece of wire screen running across the middle to afford a foothold for the bees in clustering. After filling, the hive is turned up on its side. This gives plenty of clustering space. I have lost no bees since putting in this screen, but before I did so, the bees would fall to the bottom and many would be smothered.

Vincennes, Indiana.

In the Tupelo Region of Northern Florida

E. R. Root

The Famous Non-Granulating Tupelo Honey of the Apalachicola River Region in Florida

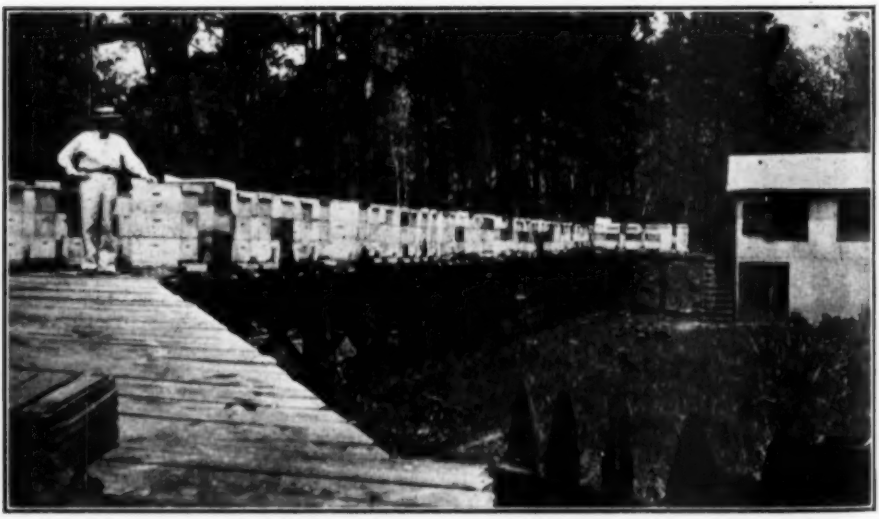
Alligators, big snakes, deer, big bear, big spiders, big beekeepers by the score, and tupelo honey by the dozens of car loads—all these and more make a combination that lures the hunter and the beekeeper into the wild swamp land adjoining the Apalachicola River and its tributaries.

We shall leave for the time being the country around Montgomery, Alabama, (described in the June issue of this journal, pages 351-354), from which thousands of packages of bees are being shipped every weak during the shipping season, and jump into a land, some of which is as wild and romantic as it was a thousand years ago.

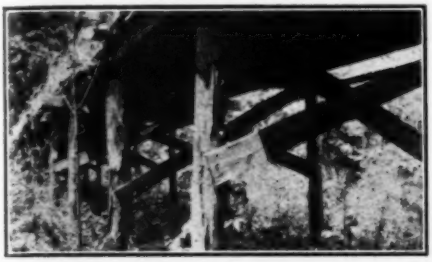
A Town Whose Inhabitants are Mostly Beekeepers

After spending nearly a week in Montgomery, Mrs. Root and I drove over the new concrete highway to Wewahitchka, Florida, a little town on the river above mentioned in which town eight out of ten of its inhabitants are beekeepers.

At the hotel the conversation is not about the weather nor about cotton and tobacco, but about bees—whether the tupelos, black and white, will give their usual yield of white non-granulating honey. The same table talk is current, although to a less extent, in the city of Apalachicola. Tupelo honey is on the tables at hotels and restaurants. It seems



Apiary of A. Millergren, Wewahitchka, Florida, located on higher ground where it is not necessary to build the platforms 20 feet high.



Substructure of the platform apiary shown at the bottom of this page.

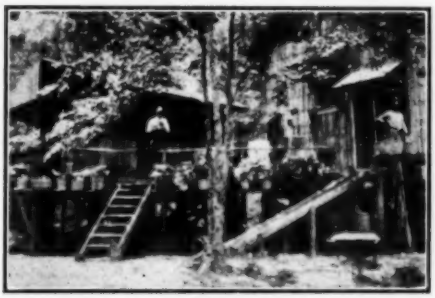
to be the only sweet used because the people of this country believe in patronizing home products.

Apalachicola is famous for its oysters and other sea food, and its climate tempered by the big gulf that even modifies the climate of far-away Britain. The wonder to me is that more northern people do not sojourn here during winter where climate, soil, milk, honey and sea food are all so fine.

I'll tell you on the side that Mrs. Root and I are looking with longing eyes toward some place in the South where we can round out our last days. On June 23 I passed my 70th milestone and my partner for 47 years is not far behind. But to go back.

A Grand Migratory Scheme That Was Abandoned

Over 20 years ago, The A. I. Root Company established an apiary at Randletts Landing on the Apalachicola River about half way between Wewahitchka and Apalachicola. We shipped nuclei from Medina to our southern yard in the fall, built them up to full colonies, and made some increase and secured some tupelo honey. But because of the rapid improvements in methods of shipping package



Old Randlett's Landing apiary, formerly owned by The A. I. Root Company. Now occupied by Mr. Nisbet.

bees without combs, we abandoned shipping bees down on combs and back again because the transportation of package bees by express was vastly cheaper than that of full colonies with freights to pay both ways. For the same reason, all carload shipments of full colonies on combs by freight are almost a thing of the past.

Typical platform apiary on the Apalachicola. Note honey house at the far end. Property of A. Whitfield, Wewahitchka.

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Platform apiary of L. L. Lanier, Wewahitchka. Mr. Lanier is the oldest continuous beekeeper in this region. There are over 600 colonies in this apiary.

Non-Granulating Quality of Tupelo Honey

This whole tupelo region is now devoted to the production of tupelo honey which is high in levulose and low in dextrose. A recent government analysis shows 46.15 per cent levulose and only 27.21 per cent dextrose. The proportions of these sugars in ordinary honey are more nearly equal with a slight preponderance of levulose.

This high levulose content means that tupelo honey, like mountain sage, also high in levulose and low in dextrose, is a non-granulating honey. I have seen samples of tupelo honey that had been in the bottle for 15 years and was still as free from granulation as the day it was produced. This high levulose content in tupelo honey is a story in itself and I shall give it at another time.

Apiaries Located on Stilts

Most of the bee locations on the Apala-

A platform apiary as viewed from the Apalachicola River. In going up the river in a speed boat, such apiaries can be seen every few miles.

chicola River are subject to high water. The hives, except in a few cases where there is high ground, are set on elevated platforms from 16 to 25 feet above normal water level. The extracting house may be in the middle of a long platform or it may be at one end. In some cases the platforms radiate at an angle from one or more buildings. In spring and summer, the men often eat and sleep in the buildings in which they do all their work of assembling hives and frames, as well as extracting honey.

On the side they can fish or shoot wild game. With plenty of flour or bread on hand, these bee men can live on the fat of the land (swamps). Flapjacks and tupelo honey with plenty of fresh fish and a good cook—well, you can imagine the rest. I have sampled both and I know.

The hives set on the platforms with a space between for trundling a wheelbarrow and a place to work. The elevated platforms make a nice sidewalk to every hive. There is no grass to cut, away from the entrances and no uneven ground on which to place hives. The hives are all level and solid. As the backs of the hives are toward the path, the flight of the bees is always away from the operators who can take off the honey and wheel it to the extracting house.

I can show only a few pictures this time, but in the next issue I expect to present more and explain "Who's Who" in this wonderful country of alligators, snakes, deer, bears, spiders almost as large as mice, and mosquitoes. Well, they are not bad after one gets used to them. The boys told me to leave the snakes alone which I did without a second suggestion.

Shaking Treatment for American Foulbrood

C. H. Gilbert

Studies of Its Efficiency Under Controlled Conditions With Outside Sources of Infection Eliminated

Of all the problems confronting the beekeeper today, perhaps none commands more widespread attention than the control of American foulbrood. Ever since this disease has been known, beekeepers and others have been seeking methods of treatment and control. Thousands of articles have been written, hundreds of new methods and devices have been tried, and still control of American foulbrood is a major problem in successful beekeeping. Since American foulbrood cuts down the efficiency of the apiary and its control adds greatly to the cost of production, it is an even more serious problem when honey prices are at the present low level.

American foulbrood, as the name implies, is a disease of the brood, and does not affect the adult bee. Therefore, the first step in treatment has been to remove the adult bees from the old hive and place them into new or sterile equipment. This is accomplished by replacing the old hive with a new one and shaking the bees into it. This treatment, commonly known as the "shaking treatment," has been used since Quinby's time and is still practiced rather generally wherever American foulbrood is found.

When considered solely from a bacteriological standpoint the shaking treatment appears doomed to failure. This in the light of the following facts: (1) The germ which causes the disease is carried in honey with which the bees may gorge themselves during the process of treatment; (2) these germs have been found in great numbers on the legs, thorax and tongues of bees; (3) these germs have the ability to form spores which are very resistant to ordinary temperatures, drying, and common disinfectants; (4) spores may lie dormant for years in the hive or on the ground and yet, if fed to the larvae, be capable of causing the disease.

When the adult bees are placed in the new hives during the shaking treatment, germs which cause the disease are placed in the hive with them. Such procedure reminds one of the farmer who went to great expense to construct a metal granary and then, after filling it with grain, locked some rats in the building. Of course, the beekeeper may hope the honey carried into the hive by the bees during treatment will be consumed before there are any young larvae to feed. If the honey is consumed the effect of digestion upon the spores is

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not known and also the spores carried on the bodies of the bees may remain as a source of infection.

Confusion as to Source of Reinfection

The shaking treatment does not appear at all practical in the light of the above facts, yet there are thousands of colonies treated by this plan every year and are apparently free from disease. There are, however, many instances where colonies develop American foulbrood after treatment. This not only results in the loss of new equipment and labor, but the more serious possibility of actual spread of disease. It is difficult to estimate the percentage of recurrence of disease following treatment because the cases are not recognized by the beekeepers. The disease may not make its appearance for months, and in the meantime the treated colonies, together with the supers and other equipment, may be lost in the apiary or moved to another yard. This may result in spread of disease to other apiaries. Such loss could be prevented if proper colony records were kept, but, unfortunately, many beekeepers keep no records. Properly kept records on the hive save time and money and are almost indispensible in combating disease.

The shaking treatment has been "on the spot," so to speak, for the past few years. The advocates of destruction by fire condemn the practice severely and have tried to get legislation enacted against it. Many beekeepers claim much success for the method, while others contend that it is "not only a waste of time but that it often results in the spread of disease." There were so many conflicting reports regarding the results of the shaking treatment that the following experiment was conducted under controlled field conditions to test the efficiency of the method.

Experiment in Shaking with Outside Sources Eliminated

The experiment was conducted in the Laramie Plains region where ideal field conditions exist. The few areas suitable for beekeeping are located along the river bottoms or on bench land which is irrigated. Between these irrigated areas lie the Laramie Plains. These rolling grassy plains extend for miles, and, after the spring wild flowers bloom, offer very little bee pasture. Colonies taken from irrigated areas during a honey flow and isolated on the plains area will gradually lose weight and eventually die of starvation.

The location of every colony of bees in the region is known. There are no so-called wild bees and there is no American foulbrood except in experimental colonies. The nearest apiary to the Laramie Valley on the west is over 100 miles distant, northeast 70 miles, and south 48 miles. The country between these beekeeping regions is broken by high mountain ranges, the one to the west being over 12,000 feet above sea level.

Method of Treatment

All new equipment was used during treatment. Standard 10-frame hives were used with full sheets of foundation in each frame. When supering was necessary new supers with full sheets of foundation were used until sufficient room had been provided. These supers were marked and used the second year in the same yards. A queen-excluder was placed under each brood-chamber to prevent absconding. All diseased equipment was taken to the honey house immediately following treatment. No attempt was made to save the brood.

The new hive was placed in the old-colony location. The cover was removed and an empty super placed on top of the new brood-chamber. The bees were placed directly onto the top-bars of the frames. This procedure prevents drifting of nurse bees, and the honey and fresh nectar is not scattered about on the ground. Thus confusion in yard is cut to a minimum.

Twenty Caucasian and five Italian colonies were used in the experiment. The colonies were isolated for two years following treatment, and regular inspections were made during that time. The colonies were located in two apiaries. Yard No. 1, in which 12 Caucasian colonies were treated, was located 10 miles from the honey house and seven miles from the nearest apiary. This apiary was the experimental apiary of the United States Bee Culture Field Station. Yard No. 2, in which five Italian and eight Caucasian colonies were treated, was located 22 miles from the honey house and five miles from the apiary of the U. S. Bee Culture Field.

One Case of Recurrence in Two Years

No American foulbrood appeared in Yard No. 1 during two inspection seasons. In Yard No. 2 one Italian colony developed American foulbrood four weeks after treatment. All other colonies in the yard remained free from American foulbrood. The efficiency of the shaking treatment, based upon treatment of 25 colonies under controlled field conditions, was 96 per cent.

Laramie, Wyoming.

The Lunatic

My earliest recollection concerning bees was when my father kept some colonies in box hives. In the top of the hive was bored three augur holes and the super set on. The super was a square box with glass in one side. It was always interesting to watch the bees work in this super, when they did. Usually they did not but would devote their energies to swarming for such hives gave a surplus of swarms if nothing else. In the fall the super was taken off when super and all was sold to the grocer who dug out the honey and sold it by the pound. Any hive that "hefted" right was taken up in the fall.

One June day one of my sisters came running into the house, scared half to death and screaming: "A crazy man is coming and he is coming right this way." We rushed out to see what was up. All agreed with her that a maniac was coming down the road and was headed right for our house. We scampered back into the house and ran upstairs where we could watch the crazy man from the window.

He wore a white shirt, or rather it had once been white. He would stoop over and gather up a double handful of dust from the road and throw it into the air. Then he would advance a few feet, gather up some more dust, and repeat the operation. He then picked up a club and began pounding a fence post as one possessed. The dust throwing would be resumed till he came to the next fence post which was due for a good drubbing. He was perspiring from the exertion, his face was covered with perspiration, and his clothes were wet. The dust stuck to his face and clothing and mingled with his long white whiskers.

He seemed to be a man of about 70 but such activity we never saw displayed in a man of his age. He came to our fence, an old-fashioned board fence, put his hands on the top board and hurdled it with ease. He was now in our cabbage patch where my father had set out some choice plants, had watered them, and had taken a good deal of pride in them. Our lunatic began to scoop up dirt and throw it into the air. Then he began to pull up cabbage plants and hurl them into the air.

One of my sisters ran for my father and told him a crazy man was in his cabbage patch and was tearing out all the plants. My father came on the run, his fighting blood up. He said: "Crazy or no crazy, I'll teach him to ruin my cabbage patch." He ran out into the patch but when he got near the man he stopped and began to laugh. He recognized a near neighbor who kept bees and with whom he had "lined" bees and cut many bee trees. He was chasing a swarm and trying to settle the bees by throwing dirt among them. The swarm went over our evergreens and doubled up with a colony of ours.

Such activity . . . by a man of his age.

Our neighbor wanted that swarm very much and offered to flip pennies to see who should take swarm, hive and all. But my father could not see it that way and was satisfied with matters just as they stood. "But that swarm of bees is mine," said our neighbor. "All right, take it," said my father. "Go ahead and sort out your bees but do not take any of mine." As all of the bees were blacks, and the box hive was not equipped with movable frames, he considered this too big a task, even as badly as he wanted his bees. He wiped some of the dirt from his face and said, "Mose, I guess you win," and went home.

After that he always kept a dish-pan and a stick handy so he could "drum down" a swarm when it came out. Thus he spared our cabbages.

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From the Field of Experience

TREATING THEM ROUGH

Quick Method of Supplying Super Room During Heavy Honey Flow

The season of 1929 gave us one of the profuse and prolonged honey flows when the beekeeper arrives at his wits' end to know what to do for super room. I was working alone managing four yards of about 65 colonies each. Beekeeper as well as bees came to a sudden stop, having arrived at the end of the rope.

What to do, and do it now, was the question to decide. Use escapes to get the bees out of the supers? No! there would be 24 hours lost to begin with. Shake or smoke the bees out of supers solid with honey? No! that looked like too much lost motion.

My equipment consisted of a 28-comb radial extractor, ton and a half storage tank, steam uncapping knife, and gas engine permanently set up in a central honey-house. The honey to be extracted had to be brought in from the outyards about four miles away.

I decided that room for storing must be provided and that operations must begin at once. So, early the next morning, about 25 colonies were surprised by having the top story of their house jerked off and transferred to a ton truck. There was no time for even lighting the smoker. On home we came, all of us together. Although there was serious objecting and impressive argumentation on the part of some, we arrived home quite subdued and fairly good-natured.

The honey house is connected with the garage so loads of honey can be driven into the building. All but one of the garage windows were darkened so all flying bees went to that one window.

By night the load had been extracted and the empty supers were back on the truck. There was a cluster of tired, meek and peaceable bees about the size of a bushel basket hanging above the window. These were left there until morning when they were thrown over the load of empty supers and taken along back to be distributed with the supers wherever they happened to come.

There was, of course, no fighting or disturbance as the honey flow was still on. In case the honey flow is waning, the wet supers can not be returned without causing great disturbance, unless it is done after dark in the evening. In that event the lost bees would be safer if used to form new colonies.—A. E. Wolkow, Hartford, Wis.

STAMPING OUT BROOD DISEASE

Prompt, Energetic and Careful Action Necessary for Its Complete Elimination

Here is something that has been said before, many times, perhaps, but it will bear repetition: In disease infested areas, frequent inspection by the beekeeper is exceedingly important. And when disease is found, it is just as important that it be taken care of immediately, not next week or next month or next year. The time to attend to a diseased colony is when the first dead cells appear. One can not afford to put it off or wait until the inspector comes around. If a beginner or one unfamiliar with American foulbrood finds any dead brood, he should, if possible, get some neighbor, who does know the disease, to help him diagnose the case.

Where only a few colonies are infected it doesn't pay to try to save bees or combs. In cases where hives are near together any attempt to save bees by shaking the foundation is sure to result in bees entering adjacent hives, carrying with them the germs of disease.

The easiest and quickest way to kill a colony of bees is by the use of Cyanogas, chemically known as calcium cyanide. A teaspoonful of the powder is placed on a card or piece of paper and shoved into the hive entrance where it will vaporize and quickly kill every bee. However, it is dangerous unless care is used in handling. The vapor, if inhaled, is a deadly poison and it should not be left in a closed room within the reach of children or others not knowing the danger.

The next best way to "treat" a diseased colony is to close the hive entrance and pour into the hive and over the bees about a pint of gasoline (not kerosene) and close up tight. The vapor will kill the bees in a very short time. A rather deep hole should then be dug in the

ground, three or four feet in diameter, the gasolined combs thrown in and burned. After burning down the combs, the hole must be filled and covered to a considerable depth with earth so that it will not be dug up by dogs or inquisitive bipeds.

There must be no honey or dead bees left exposed for even a moment. Bees stepped on or otherwise crushed may be a source of infection. Furthermore, in handling diseased colonies, great care must be taken to prevent the escape of any live bees to carry infection to other hives.

Beekeepers understanding the nature and treatment of American foulbrood should give all possible assistance to others in their vicinity who need instruction —E. S. Miller, Valparaiso, Ind.

A HANDY SUPER LIFTER

Handling the Stack of Supers as a Single Unit

This super lifter is made for a permanently packed hive. It is made of ⅛" x 2" angle iron which fits on the watershed of the hive and down the back corners. The piece extending from the center of the sides to the front is made of ¼" x 1" and is turned about 1" so as to go around the front corner of the brood chamber. This is fastened to the angle iron on the outside with one rivet which forms a hinge so it can be turned back to rest on the frame when moving to another hive.

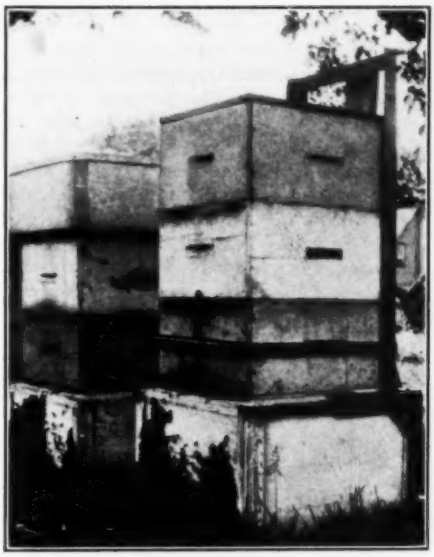

Fig. 1.—The hive lifter is clamped over the brood-chamber and the first super.

The same size angle iron goes up each side of the supers (Fig. 1). The crosspieces at the top and bottom are turned out, and on the outer edge two hinges are riveted. This when turned back (Fig. 2) puts the supers clear of the brood frames, so they can be taken out for examination. At the top a piece of board is hinged which automatically falls in position as a leg when the supers are turned back.

Two pins are put in the angle iron

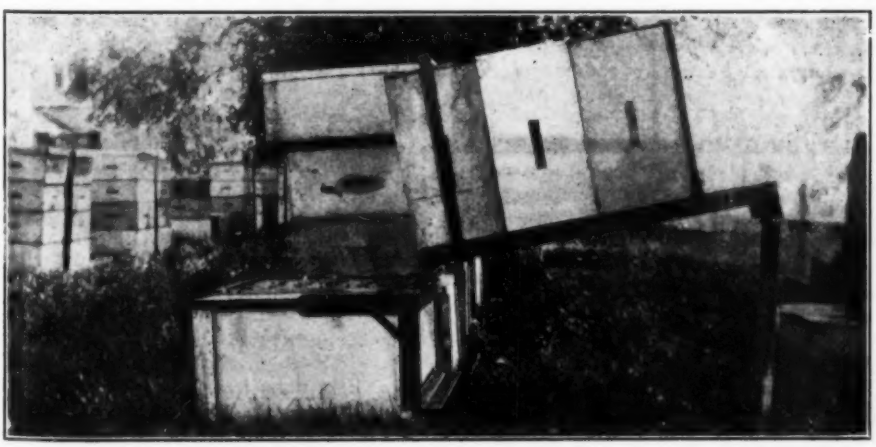

Fig. 2.—The supers are tipped back, and the hinged board drops in place to support the upper end leaving the brood-chamber free for manipulation.

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(Fig. 1) so the super clamps will not slide down. This clamp is made of ¼"x1¼" iron and projects out in front of the super. A ⅜" slot receives the eccentric clamp which is made of pipe plugged at each end and a ⅜" pin put in at the side of the plug.

Fig. 2 shows three supers turned back ready for examination of the brood chamber. Also the last super put on can be examined from the bottom. If another super is wanted, the supers are slid back on the angle iron (Fig. 3) to a mark at the proper height, the eccentric clamps are again tightened, and the empty super is put on the hive.

The supers are then put in place without having separated the three. The super lifter complete weighs 40 pounds.—Roy MacDonald, Nelson Grove, Ontario.

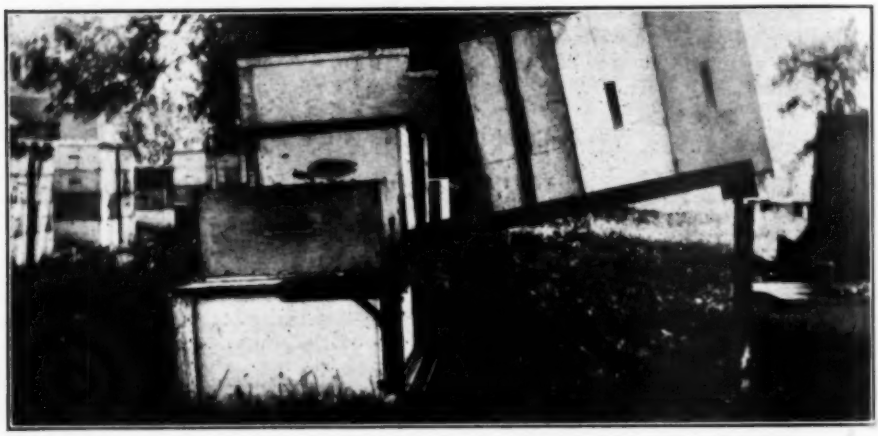


Fig. 3.—If another super is to be given next to the brood chamber, the pile of supers is slid back the proper distance to allow for it. The empty super is then put on the hive and the others are raised into position.

LEMON RIND HONEY COOKIES

They Improve With Age if Temptation to Eat Them Can be Resisted

Two pounds honey, 1 pound sugar, 5 eggs, 1 pound butter, 1 tablespoon potassium carbonate; 1 tablespoon hartshorn salt (ammonium carbonate), 2 tablespoons baking powder, 3 teaspoons ground cloves, 3 teaspoons ground cinnamon, 1 teaspoon pepper, the grated rind of 2 lemons, 1 cup milk or cream. Put about 4 pounds of flour into a large pan. Boil the honey and sugar together; when boiling stir it into the flour. Melt the butter, and stir it into the mass. Pour in milk or cream, working the batter all the time, then the eggs, and knead well until all is evenly worked in. Then knead in the spices (cloves, cinnamon, pepper and lemon rind). When the dough is no longer very hot, put in the baking powder. Have the hartshorn and the potash finely pulverized so that it will be as fine as flour. Put these in last, then while kneading the dough, knead in sufficient flour to make it firm and fit for the rolling pin.

Roll out to a thickness of one-fourth inch, then use a cookie cutter or a glass, cut out the cookies which are placed on a buttered cake tin, and left standing two days before baking. Bake at 360° in electric oven (or at proportionate heat in any other oven) for 10 minutes.

When cooled, brush with frosting made as follows: Heat one-half small cup of milk together with one tablespoon of butter, stir into this one tablespoon cocoa, and 10 to 12 spoonfuls of frosting sugar, or as much as will make it quite thick. If too thin, add more sugar. This mixture does not have to be boiled. Apply with brush.

Put the cookies into a tightly closed stone jar or tin box. After a few days they will become soft, and remain good for a long time, if kept closely covered. This recipe makes about 180 small cookies. For less, use less of the ingredients in the same proportion.—Sister M. Aniceta, St. Mary's College, North East, Pa.

COMMENTS ON CURRENT ITEMS

On page 345 of the June issue, the Editor calls attention to the fact that combs having stretched cells in that portion next to the top-bar greatly reduce the amount of worker comb available for brood-rearing; and, if the queen is permitted to work in two stories, the stretched cells in addition to the top bars of the lower story and bottom-bars of the upper story form quite a barrier to the extension of brood.

With the right system, this condition can be entirely eliminated. Narrow spacing, 1⅜" from center to center, is a big help. That is the spacing we use and we get our combs almost solid with brood to the top-bar. Adams & Myers, leading beekeepers of western New York, I understand, use 13 frames in a 12-frame hive, and I doubt if they could be persuaded to go back to wider spacing.

We old-timers started with just about the same kind of experience as Louise MacMullen reports on page 361. I would not be surprised if a lot of the excessive swarming came from those eight-frame hives, at least they look like eight-frame. It takes an artist to produce comb honey in a small hive and keep the increase down. After all, Miss MacMullen wanted the increase, and, unless I am very much mistaken, she is just the sort to make a financial success as a honey producer.

I quite agree with Mr. Wilson (page 366) that bees sometimes work seven miles from home, but, of course, there is no profit in it. The late D. A. Jones told of an apiary on the river Jordan from which he traced the flight of bees to a large forest seven miles down the river, with no forage between. I believe, though, that bees would starve under such conditions unless already well supplied with honey.

That editorial on page 347, "Supersedure During Swarming Season," should not only be read, but by amateur beekeepers, studied.

On page 346, Jay Smith emphasizes the fact that when a second story is added for brood-rearing, "the queen gets on the job and lays as she never laid before," and as she has "really raised two colonies she is ready to be replaced," which is certainly true. By giving a good queen cell, it is a simple matter to have a young queen mated from a super, and as the old queen is no match for the young one, we get a vigorous queen in the brood-chamber by letting them fight it out.—J. F. Dunn, Ridgeway, Ontario.

SPINSTER JANE SAYS—

My dream has at last become a reality, and I am the proud possessor of two colonies of bees. They were shipped from Ohio on May 28, and we got them home and safely in their hives on the evening of June 3. Quite a number were dead and we feared for the queens, but both were alive and were soon freed by the bees. Their feeders were empty, and how greedily they licked up their first feed of warm syrup!

On their first day of freedom they gave everything and everybody the "once over," locating all possible nectar sources, water supply, etc., one even alighting on my wet thumb to suck up the water.

Breeding surely tells, and these little Ohio females seem to be true aristocrats. They are uniformly colored and banded, quiet,—ladies in every sense of the word.

So far no one has been stung. The bees are too busy for that. The first day their hum held an angry note and it would have been easy to pick a quarrel with them, but no wonder! What would we women do if cooped up together that way so long, jostled, bumped and abused? And as for the men! The air would have been blue.

You never saw busier workers. The old frames we gave them have been cleaned spick and span, and, although we refilled their feeders with syrup, they did not take it all. They are bringing it in for themselves. Every minute of the day they are coming in heavily loaded with nectar and pollen. This is being stored, and when we examined the frames seven days after arrival, we found plenty of honey. We caught a fleeting glimpse of both queens, both beauties, but so elusive and quick-moving! One is already laying and next week should see quite a number of cells filled with promise for future honey.

Well, we have had short courses in Domestic Science and in Household Science Judging, and in none of these is honey advocated as a suitable or necessary food for children or grown-ups either, for that matter. The United States is far in advance of Canada in that respect.

—Spinster Jane.

XUM

From North, East, West and South

SOUTHERN CALIFORNIA.—This year started out with the most promising prospects so far as moisture was concerned. This continued up until in March, since which time little or no rain has fallen over the greater part of southern California. Beekeepers who moved to the orange harvested some honey. It is hard to tell just what the average really was, since the yield varied from twenty to 100 pounds per colony.

Orange seems to be our best bet year after year for at least some honey. But many of us hesitate to move, each year hoping that results will justify sticking to our outside ranges, thus saving the moves to and from the groves. Many of us made other investments during our more prosperous years that now prove only a burden. When we look around and visit with men in other pursuits we often wish that we had stuck a little closer to our own business. We are only the more convinced that we are as well or better off than those in most agricultural lines.

The Total Crop of Honey in California Can Not be Large This Season on Account of Lack of Moisture.

May 15 found most of the bees moved from the orange to their summer ranges. Sages, wild buckwheat, wild alfalfa and other so-called dry-land plants have yielded in a more or less uncertain manner. This applies more to the white sage than to the black or purple varieties. Where the black sage was on a warm exposure, the yield was fast and plentiful so long as the moisture lasted, and a few beekeepers were well repaid for having their bees in the right place at the right time and in the right condition. Some beekeepers think that there is enough moisture in the soil to carry the buckwheat and white sage along so as to make considerable honey provided the weather does not turn too hot. Making a big crop is out of the question this year.

Some beekeepers complain of their bees filling everything with brood to the exclusion of any room for honey. This is the case at times when the honey flow is slow. Excluders might work well at such times.—L. L. Andrews, Corona, Calif.

NORTHERN CALIFORNIA.—The 1931 crop of honey in this part of the state was entirely cleaned up. The new crop is coming in and prices are not satisfactory; they are too low. However, we can not expect big prices with everything else so cheap. One of our beekeepers, referring to the matter of prices, says, "I am not worrying about the low price of honey, for I can buy as much with a pound of honey today as I could when prices were higher." It is the courageous beekeeper who will come out of the depression.

Our migratory beekeepers who have had their bees in the lima beans and alfalfa are meeting more trouble than usual in finding locations. The bean acreage has been cut down on account of over-production and the alfalfa is injured by weevil. This is likely to cause overcrowding in the alfalfa.

Excessive swarming continues. Commercial beekeepers are experiencing a cut in production of honey on this account. Bees in the cities have been allowed to swarm and have been left to find homes for themselves, the result being that many complaints have come from people where the bees have taken possession of chimneys, roofs and walls of houses. When this occurs, there is a mad effort, on the part of those trespassed on, for an ordinance that will prevent the keeping of bees in the cities. This only causes further trouble. Last February Mrs. C. A. Ellis, a member of the state association, was threatened with arrest in Los Angeles for violating such an ordinance. Mrs. Ellis appealed to the secretary for instruction. The matter was referred to the association attorney, who advised that such ordinances could not stand if an effort to oppose them was made. When the matter came to trial the judge rendered a decision that the ordinance was unconstitutional.

One important matter for beekeepers to keep in mind is the inclination on the part of the officials to cut down expenses. In their effort to do so, inspection is likely to be among the first to suffer. Beekeepers should keep their eyes open and see that their interests are protected.—Cary W. Hartman, Oakland, Calif.

UTAH.—This is June 3, and there has not been more than ten good active working days during the past two months for bees. Once during April and once during May brood-rearing was nearly suspended, consequently swarming is three weeks late. This is during the lean period that comes between the early spring honey flow, and the main honey flow which should start in about ten days. It will be impossible for colonies to reach their peak before the last of June.

While there will be ample water for irrigation, we are again threatened with drouthy conditions, besides the menace of quite a heavy grasshopper infestation in parts of the state. The weather has been freakish with subnormal temperature and many cloudy days and high winds. As you know, the beekeeper is an optimist, so we still hope for a good flow that nearly always comes from July 15 to August 15.

Foulbrood is a little more prevalent than usual and it may show up more when hot weather comes. Our commissioners have cut the insspectors' pay to the quick so it will be up to the beekeepers themselves to see that the work is done thoroughly among their own bees.

Not as many package bees have been brought in as usual, but the low price of queens has induced some to requeen many colonies. The weather has been very unfavorable for this work. Very little honey unsold here.—M. A. Gill, Hyrum, Utah.

ARIZONA.—The honey flow here locally has been a disappointment so far. It was not caused from lack of moisture, but from cold nights and generally backward weather. The first mesquite bloom came out fine but soon dried up and very little honey was gathered from it. It put out a second bloom and it has been a little better. The nights have been cold as if it were winter time—4500 feet elevation. I have not extracted a pound of honey from over 800 colonies and the period of the honey flow is over half gone.

Mesquite, catsclaw, oak, sage and other plants made a large new growth this spring. This shows we have had plenty of moisture. It was the indication of an abundance of moisture that caused several to lay in a large supply of cans and cases anticipating a large crop. Well, we still have our cans and cases. Should weather conditions turn favorable there is yet a chance of receiving a few cases. All bloom is late and it is hard to say at this time just what it will do, though the time is getting short. In some localities the catsclaw is just leafing out and at other places it is entirely over. Mesquite very often blooms out a second time, but the catsclaw never puts out a good second bloom.

For the past twelve years I have been located at an elevation of 4500 feet. I have found that there are more crop failures at this elevation than in the valleys at an elevation from 300 or 400 feet to 1800 feet. In the valleys there is sub-irrigation. Here we have to depend on rainfall and snow in winter for our moisture. Another reason for the difference is that the nights do not get cold enough in the valley to ruin the bloom as they do here. Several years ago I read an article trying to prove the higher the elevation the larger the yield. Evidently we have something to learn yet in regard to elevation and yield. However, in some localities larger crops may be received at the higher elevations. But it has not proven to be true in Arizona.—Leslie Wedgworth, Oracle, Arizona.

OREGON.—Unsettled weather conditions during recent weeks have seriously interfered with work with bees, although apparently it has not seriously interfered with the development of colonies, as they seem to be in very nice shape, and at this writing, June 3, are working on vetch and clover. Recent rains will no doubt prolong our honey flow and will in the end prove of value.

The honey market situation is very discouraging, with 5-pound buckets selling for less than 40 cents in the chain stores, making beekeeping anything but profitable. There seems to be a tendency to neglect the bees as a result. However, where special efforts are being made to push the sale of honey by those particularly interested in honey sales, it seems to be moving in fair shape. Recently our attention was called to one case where a beekeeper has encouraged the use of honey in bake shops, and one bake shop alone uses as high as 1500 pounds of honey in a month. This is in a town of less than 15,000.

Mr. G. H. Vansell, with the Pacific Slope Apicultural Field Laboratory at Davis, California, recently made a hurried

trip to Oregon in connection with some investigational work which he is carrying on on the pollination of fruit with bees. We are looking forward with considerable interest to the results of this work by Mr. Vansell, as we realize that the value of bees in connection with our pollination problems here in the West is as important as in honey production.

With the present discouraging situation in the marketing field, let us not overlook the importance of our display at the state fair as one way in which we can help our marketing conditions, and all beekeepers should look forward to sending the usual exhibit of honey to the state fair in order that we may have another fine display. For information regarding premiums, etc., at the state fair, write to the Secretary of the State Fair at Salem, Oregon.—H. A. Scullen, Corvallis, Oregon.

TEXAS.—The weather for the month of May was such that honey plants bloomed in great profusion and the bees have stored more than was expected for a crop for a whole year. The long drouth of the early part of the year did not allow the early spring annuals to bloom. The rains of the middle of April caused many of these to come up and the continued rains of May brought into bloom a general mixture of annuals which generally bloom in January and February, together with those that commonly bloom later. Likewise the same rains put new life into the numerous but stunted horsemint plants, causing them to reach a rapid maturity. The interval between the mesquite flow and the horsemint flow ended on May 7, when the scale hive commenced to indicate an upward movement.

Reports coming into San Antonio indicate that this same heavy honey flow is on throughout much of southwest Texas. Farther southwest in the huajillo-catsclaw section dry weather has not allowed the horsemint to grow to any size. The early honey flow is supposed to be about one-third of normal. The honey is said to be of fine quality and there is a fine sale at a fair price. The cotton section of Texas reports that the bees are in good shape and they have their usual prospect for the honey crop.

The last week in July the Texas Beekeepers' Association will hold its annual meeting at the time of the short course of A. and M. College at College Station, Texas. The program committee, with Dr. Bilsing as chairman, is preparing a fine program with some new features, one of these being an offer of money prizes for the best short articles on some phase of beekeeping. These articles must come from members of the association. The three receiving the highest marks will receive prizes.—H. B. Parks, San Antonio, Texas.

NORTH CAROLINA.—The honey producing season has come and gone in eastern North Carolina and left the beekeepers with the lowest average yield for many years. Reports from some quarters indicate that no spring crop was harvested, due to cold and unfavorable weather; others report light yields and that the bees are working on gallberry. Conditions are better in the Piedmont section where an average yield of 50 pounds may be expected. The major honey producing plants are yet to bloom in the mountain region where both bees and plants are in normal condition.

Alsike and crimson clover bloomed well in the upper Piedmont section and yielded more than usual. Several beekeepers reported a nice honey flow from clover. Sweet clover is now commencing to bloom, and, if the weather continues favorable, beekeepers in some of the Piedmont counties may harvest a normal crop this year.

As a result of the adverse weather conditions, European foulbrood has been more prevalent in the eastern counties than for several years. There are many black and hybrid bees in that section, and the absence of the usual early honey flow has resulted in much trouble from the disease. Beekeepers are not discouraged because of the low yields this year, but are making greater efforts than ever before to have their colonies in good condition for the fall flow and for winter.

E. R. Root spent the week beginning May 9 in the state. He traveled through several counties and delivered lectures at beekeepers' meetings. Mr. Root has always been highly admired by the North Carolina beekeepers, and his popularity was evidenced by the large attendance at the meetings. An aggregate of 610 beekeepers heard his inspiring and edifying talks.—C. L. Sams, Raleigh, North Carolina.

LOUISIANA.—There has been very little change in Louisiana beekeeping since my last letter to you. Since then we have had good rains over most of the state and the honey plants that are yet to bloom are in the finest condition. White clover is still blooming, although about through with its season. Honey locust is producing well in the lowlands, also blue vervain, and before this article is printed the sarsaparilla vine will have come into bloom. In some parts of Louisiana there are hundreds of acres of these plants in a body and there is not a plant anywhere that produces more nectar in as short a season. The season covers about fifteen days. The honey from this source is very light in color and of a delicious flavor.

Following this honey flow will come the pepper vine and buttonwood. Both are good nectar producers but the honey is rather dark. They bloom through the summer to September.

To this date the crop of honey gathered has been short, possibly half a crop. However, in spots some beekeepers have made their average yield.

The shipments of queen bees and package bees have been good considering the depression, and, with the low price now being made on them, many queen rearers are running their plants to capacity. I visited one producer who has 1300 nuclei and he stated that he had returned several large orders on account of inability to produce them on time.

Honey is selling slowly; but we must not forget that this commodity is not perishable, and will stand a better price than most of the products of the farmers, and costs less to produce it.—E. C. Davis, Baton Rouge, La.

GEORGIA.—The local and nearby distant honey market conditions have not improved for the last 60 days. Beekeepers are not trying to sell the remainder of their last year's honey crop, holding it at 9 cents and 10 cents a pound for the extracted, and 12 cents and 13 cents a pound for the chunk, which is four cents above former prices.

The spring honey crop throughout south Georgia was a flat failure. Some of the beekeepers have lost 50 per cent of their bees from starvation, and the remainder will have to be fed, in order to carry them over the summer, winter and spring. Will it pay, is a question, since colony life is at such a low ebb; very small clusters, even in the best colonies.

The gallberry, which is the last honey plant to yield a surplus, put out only a very small amount of bloom. This is over, so there is nothing to look to or hope for, and the beekeepers are becoming more and more discouraged. A few entertain a faint hope that the fireweed or some other similar plant will come up where the great forest fire passed through, burning the land clean and consuming all muck soil, but so far nothing has showed up in this large area in the way of vegetation. Mexican clover is beginning to appear in the farming regions, since the eleven-months-and-twenty-days drouth broke, which was May 26th.

Beekeepers who are fortunate enough to be located where there is farming going on, or who are in position to move their bees to such sections, will have to do so or lose their bees, since very little vegetation is left in the natural forest.—J. J. Wilder, Waycross, Ga.

IOWA.—The chlorine treatment for infected apiary equipment has received a great deal of attention from Iowa producers this year. They seem to have been extremely interested in the new method as a possible means of reducing the heavy losses which are occasioned by the necessity of burning a large amount of material that becomes infected with disease.

Honey plant conditions have developed very satisfactorily during the spring period. The late start was made up by unusually warm weather during late spring. There has been plenty of moisture over most of the state and reports are consistently received indicating that all types of clover are in good shape for growth and consequently nectar production. There is more moisture available now than has been the case for the past two years at least. The small white clover is more abundant than was anticipated earlier in the season. The sweet clovers are probably more abundant than was realized and their growth has been unusually good, although the spring started out quite slow, yet the summer flow started at about a normal period.

The colony conditions were not as good as those of the honey plants. The delayed losses during the spring were more severe

than had been anticipated. Furthermore, a large number of producers found that their colonies could not build up as would be desired because of lack of requeening during the last two seasons when crop conditions were unsatisfactory and interest dwindled. There probably never was a time when colony conditions would show better returns than this year, and it is safe to say that anyone who had colonies in good condition will be able to harvest a good crop of honey.—F. B. Paddock, Ames, Iowa.

SOUTHERN INDIANA.—I never before saw such an ideal spring for brood rearing as the cool weather seems to be favorable for pollen production. Many colonies wintered in single stories ran short of stores and starved. In our outyard all colonies were wintered in two hive bodies with an abundance of stores. It was surprising to note the amount of stores consumed. While all had sufficient, few had more than needed.

Another surprise was the difference in the amount of stores consumed by colonies not packed and those packed. As the winter was mild, I expected there would be but little difference in the amount of honey consumed, but the packed colonies consumed less than half as much as those not packed.

Early Swarming From Colonies Wintered in Single-story Hives Indicates Value of Wintering in Two Stories.

A few colonies wintered in single-story eight-frame hives swarmed in April. I was called to hive the swarms and found them normal in every way. Most of the bees with the swarm were old ones that were reared the previous season. In our two-story ten-frame hives there were no swarms which showed the value of plenty of brood-rearing space in producing strong colonies with no swarming.

The general prospect for a good yield of honey is the best for years in this locality. There is now (June 7) a good honey flow from white clover, which is unusual as white clover seldom yields here. This indicates that this will be a clover year, and sweet clover should give us a good yield.

Honey is moving slowly, although bakers are using more in bread making than ever before. Our family never cared for ordinary baker's bread, but the bread they are making with honey certainly is a superior article. The whole-wheat bread is soft, stays moist, and does not become crumby like ordinary whole wheat bread. —Jay Smith, Vincennes, Ind.

SOUTH DAKOTA.—The fear that had beset South Dakota beekeepers since late last summer vanished with the coming of the clover. It is nothing short of remarkable how sweet clover plantings, which wilted and apparently died under the intense heat of last season, surged into life this spring under influence of abundant moisture and good growing weather. Although fields are of a thinner stand than usual it will not affect nectar production greatly as the plant, uncrowded, branches and blooms more profusely. There are a few districts of limited area wherein the sweet clover did not survive, but large producers in these localities have already made preparations to move to favorable sections. All in all, this year holds the promise of a generous surplus of honey to those who took care of their colonies.

Yellow sweet clover, although grown to a limited extent, began blossoming June 4 and will fill an important place in meeting colony requirements until the white variety begins to bloom the latter part of June. At present, colonies are generally light in stores due to the cool, damp weather which discouraged flights during the dandelion flow. Some feeding was reported during this period and this writer, among others, has concluded that the saving of one super per colony, either shallow or full depth, to be added in the spring, is the best insurance for strong colonies with the least amount of yard work involved.

Stocks of honey are pretty well cleaned up throughout the state so producers will be doubly grateful for a good crop this season. If then given a fair price we may look ahead without the disconcerting thought of how to meet the cost of additional and replacement equipment, which is a problem at this time.

I received a queen by air mail a few days ago and in the course of my annual "fool experiment" at requeening, the royal lady flew away. I attribute her inclination to the effects of the air journey from the South. Better luck, perhaps, had I ordered her to come by slow freight.—J. Franz Norgren, Junius, S. D.

ONTARIO.—Again we have been having a period of cool, cloudy, and windy weather that has a tendency to make beekeepers feel pessimistic. This is especially the case, when some apiaries are bare of stores and colonies must be fed to carry them through to an expected honey flow in the near future.

We had a six-day period of fine weather in May while the large willows were in bloom. More than once I have made the claim that the large varieties of the willow family are the greatest honey yielders that we have here in Ontario, and I am still inclined to that view. As long as the weather is warm enough for bees to work, nectar is always secreted abundantly no matter what other conditions may be. I do not know that this applies to any other honey plant. True, no surplus is stored from this source except in rare instances, but the nectar comes in at a time when it is very much needed to stimulate brood rearing and to replenish the stores of many colonies that may be nearly out of food.

Under the stimulus of this six-day honey flow from willow, the bees built up their brood very fast and we expected that many colonies would get the swarming fever during fruit bloom to follow unless we gave them supers. But our worries in that line were entirely uncalled for, as the weather turned cool and showery, and but little was gathered from the dandelion and apple blossoms in this locality. While quite a number of colonies had queen cells started at the time we clipped queens and gave a general examination to all, as soon as adverse weather set in, the cells were attended to without any help on our part. So far as we know, but one swarm issued and in that case the queen was returned and cells cut out which ended the matter.

Spotted Rainfall and Variation in Presence of Honey Plants Gives Great Variety as to Prospects for a Honey Crop.

With all bloom past for the present, we find just what the presence of large willows near an apiary means and just what it means in a year like this when there are none of these willows near. Without exception, every apiary near the willows have enough stores to carry them along till alsike blooms, and, without exception, every apiary with no willows near them, has to be fed to keep the bees and brood alive till nectar is again available.

The term "large willows" is indefinite, but I do not know how to classify them otherwise as their botanical names are not known to me. At least three varieties that are near us grow quite large, the trunks in many cases being two to three feet in diameter. All these secrete nectar profusely and never fail if the weather is warm enough for the bees to fly.

From what I have already written, it is clear that things might be better locally so far as the bees are concerned. About half of our colonies are short of stores at present.

Rainfall in Ontario has been rather erratic. Generally speaking, it has been very light in northern Ontario, or New Ontario, as it is often called. The same condition applies to much of eastern Ontario as well. The central counties as far west as Toronto, which includes our district, have had nice showers well distributed but no heavy rains this spring. Locally, about two inches of rain fell during May. It all came in rather light showers, and crops in general look well at present. From Toronto west and northwest, the Niagara peninsula included, heavy rains have fallen and in many cases spring grains have been damaged. But this has been good for the clovers and I think prospects in the last named districts are much better than in the rest of Ontario.

Locally we have almost no sweet clover, a small acreage of alsike that looks fair at present, and a larger acreage of alfalfa than usual. The acreage of the latter plant that will be left for seed is unknown as yet, and that factor may have a lot to do with the size of the crop of honey this year.

Mention was made in the last issue of twelve packages of bees that were delivered in the latter part of April during a long spell of cool weather. Later some packages arrived (about May 10), just when willows were blooming. At present, the later shipment is away ahead of the earlier lot, so it is difficult to name the best date to have package bees delivered.

So far as I know, but little if any inspection work has been done locally this spring. Lack of funds explains this, I suppose. I am glad to say that we have found almost no disease this spring, which is at least one thing to be thankful for.—J. L. Byer, Markham, Ontario.

XUM

Heads of Grain from Different Fields

Repainting Used Bee Hives

As most beekeepers know, it is almost impossible to get ordinary paint to dry over a propolized surface. An especially prepared aluminum paint will do the trick. It dries hard, then any kind of oil paint will dry over the aluminum. Cut spar-varnish with pure turpentine, equal parts; stir this liquid gradually into a vessel containing powdered-aluminum until it works easily under the brush.—Glenwood Beard, Prospect, Ohio.

Large Display of Honey at Roadside

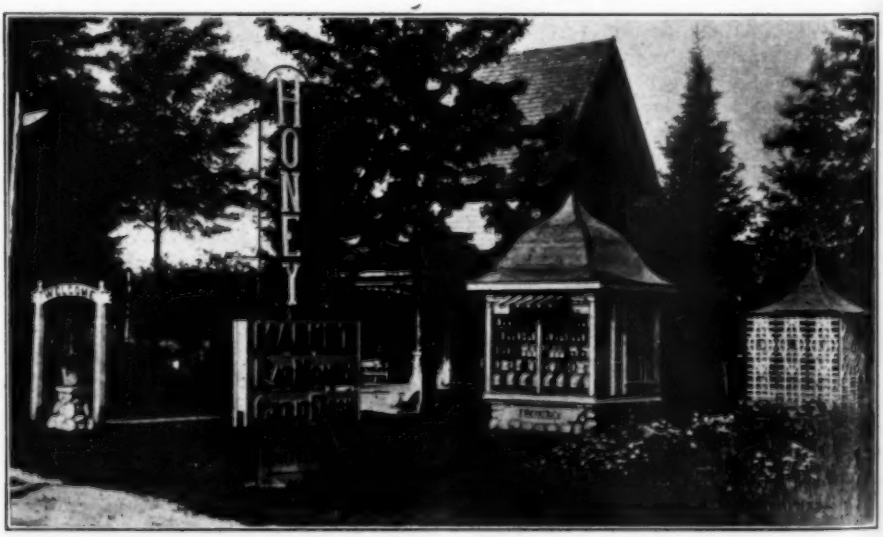
I have sold honey by the roadside during the past 12 years, but had few customers, until I built a roadside honey display case. If one wishes to sell honey he must exhibit the goods. My honey display case is 8′ x 8′, glassed on the front and one-third of two sides. I keep 500 pounds of honey on display in this case and a stock of about 1000 pounds within the building, all in retail packages ready to hand to my customers. Also I keep a small display of honey on the front porch, in view from the highway, over which there is a printed card asking my customer to help himself, and to deposit the price of the package chosen into the box.—Geo. H. Kirkpatrick, Kalaska, Mich.

Quick Energy from Honey

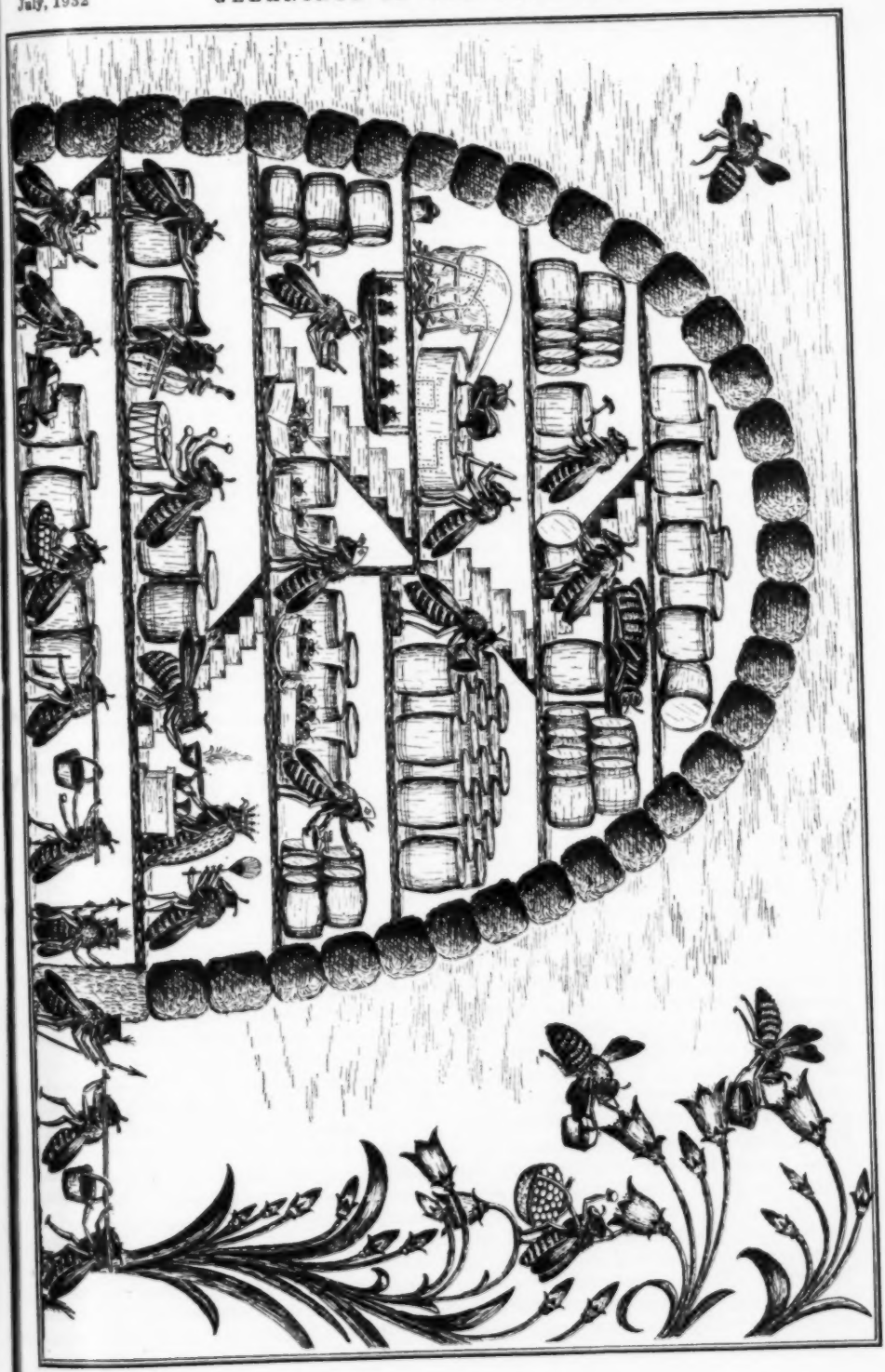
I am told that football coaches have practiced for years feeding sugar to the team before the game and at half time. From the standpoint of digestion and liberation of energy, it would appear to be doubtful practice unless used some time before the contest. Honey, on the other hand, is apparently more rapidly available in the form of energy and should at least be more desirable for use at the half time. This year, Coach Hughes became interested in the use of honey at the Colorado Agricultural College games and reports favorably on its success.—R. G. Richmond, Fort Collins, Colorado.

The Work of the Hive

In the drawing reproduced on the next page, the beekeeping artist, G. A. Pauli, Pueblo, Colorado, gives free rein to his imagination in depicting the workers gathering nectar and pollen and carrying it into the hive past the guards at the entrance, the cleaners, the orchestra, the queen's attendants, the nurses, the workers engaged in ripening and sealing the honey, and even the drone fast asleep amidst plenty.—Geo. S. Demuth.



The large amount of honey on display at this roadside stand compels attention and this greatly increases sales.



Talks to Beginners

Geo. S. Demuth

July is usually a busy month in the apiary. In many localities, beekeepers are in the midst of the honey harvest, while in other localities the main harvest is drawing to a close if it has not already closed. In the northeastern portion of the United States, both white clover and alsike clover have been yielding nectar freely for several weeks. In portions of this region, sweet clover will prolong the honey flow, but where sweet clover is not present, the honey flow from white clover and alsike clover usually ceases some time during this month. In localities where there is a considerable number of basswood trees, much nectar may be gathered from this source this season. It comes into bloom late in June or early in July, but does not last long. Sometimes the bees fill one or two supers from this source, after which the honey flow may close abruptly. Sometimes good rains will cause white clover to continue blooming throughout the month of July, while sweet clover often yields at its best during this month and continues well into August.

Sometimes the honey flow closes abruptly, and at other times it tapers off toward the close, especially where there is a considerable amount of sweet clover. In some localities there is both an early honey flow in May and June, or in June and July, followed by a later honey flow beginning in August or early September.

Signs of End of Honey Flow

It is important to keep a close watch of the work in the supers as well as of the honey plants for indications of the closing of the honey flow because the management this month depends largely upon the time it closes. When the honey flow closes abruptly, the bees often become quite ill-tempered, making them difficult to handle. If it closes gradually and tapers off at the end, as it usually does where there is a considerable amount of sweet clover, the bees usually begin to crowd the brood chamber with honey, leaving less and less room for brood. As the close of the season approaches, the workers drive the drones to the floor of the hive and finally drag them out at the entrance. The bees gather more propolis and often discolor the white cappings of comb honey with a thin film of propolis, thus spoiling its appearance. For this reason, it is sometimes difficult to have comb honey finished with white cappings toward the close of the season.

As nectar becomes scarcer, the bees are inclined to rob if hives are kept open too long. Beginners often experience serious trouble in opening hives too freely when nectar is scarce at the close of the season by getting robbing started. Under these conditions, the bees sometimes become exceedingly cross. Beginners should learn to recognize robbing when it first starts, for if a bad case of robbing is started, the bees are often cross for several days. A good rule to follow for the prevention of robbing is not to open the hive unless the bees are bringing in nectar freely. When little groups of bees are seen at the cracks between supers after a hive has been opened, desperately trying to get into the hive, it is time to quit work and wait until the trouble subsides.

Management of Supers at Close of Season

Toward the latter part of the main honey flow, supers should not be given as freely as earlier. This is especially true when producing comb honey. Giving too many supers would result in many unfinished sections. The problem toward the close of the honey flow is to have the work finished, if possible, while nectar is available. Even when producing extracted honey, it is better to have two or three supers well filled instead of having more only partly filled. Therefore, instead of placing the empty supers under the partly finished ones, as is usually done earlier in the season, it is well to place them on top of the others in order to induce the bees to concentrate their work on the supers already started.

If extracted honey is being produced, the supers may be left on until the close of the honey flow in order to have the honey extra well ripened. Comb honey, however, should be taken off as soon as most of the sections are sealed, for if left on too long, the white cappings are liable to be stained. As a rule, it is not advisable to wait until the last of the sections are sealed but the supers should be taken off and the unfinished sections sorted out to be given back to the bees to be finished. This sorting should be done im-

mediately after the supers are taken off in order that the unfinished sections may be assembled in an empty super and given back in time to have them finished.

When the bees slow down in their work or cease storing entirely, all comb-honey supers should be taken from the hive, the finished sections sorted out, and the unfinished ones re-assembled in supers to be given back to the bees. In doing this, the sections which are nearest finished should be placed in the middle of the super. Sometimes the colony has four or five comb-honey supers in various stages of completion as the close of the honey flow approaches. By taking them all off and sorting the honey, it is often possible to reduce the number to one and thus have the last sections fairly well finished. If the honey flow stops entirely, all the unfinished sections should be taken off. To leave them on during a dearth of nectar at this season would result in the wood and the comb being ruined by propolis. Even in localities where there is a fall honey flow, the supers should be taken off during the dearth of nectar, then given back when the fall honey flow starts.

Taking Off Surplus Honey

During a heavy honey flow, the finished supers of comb honey can be taken off by blowing smoke into the supers at the top to drive most of the bees down. During the early forenoon, when the bees are working well in the fields, is a good time to do this. The smoker should be loaded with new fuel so that sparks or ashes will not be blown against the honey. As the cover is lifted, the bees above the cover may be brushed off with a bee brush or with a large feather from a turkey's wing. After most of the bees have been driven down, the super should be lifted at one end, and the bees on the bottom should be brushed off quickly before any can return. The super can then be carried into a building and stood on end in front of a window so that the remaining bees will leave it and fly to the window. The window can then be opened to let the bees out. Toward the close of the season, it is more difficult to drive the bees out of the super. It is then that bee-escapes are most useful.

In taking off a few supers of honey to be extracted, a good way is to drive the bees down with smoke, then take out the combs one at a time and brush off the remaining bees. The combs of honey can then be put into an empty hive body. If robbers are about, this hive body should be kept covered.

It is not necessary to wait until all of the honey in the combs to be extracted is sealed. The bees are sometimes slow about capping the combs completely. If three fourths or more of the cells are sealed, the honey is usually well enough ripened to take out and extract. It is a good plan for beginners to extract the honey at once while it retains the warmth of the hive since it comes out of the combs cleaner than when allowed to become cold. Those who run short of supers when producing extracted honey can extract from the first super and give back the empty combs to be refilled.

Care of Honey After Removal from Hive

After being removed from the hive, comb honey should be kept in a warm, dry place where the honey will become thicker instead of absorbing moisture from the atmosphere. Unless it is to be sold or used immediately, it is well to leave it in the supers for the time being, since it may be necessary to fumigate it later to kill any larvae of the wax moth that may be present. This fumigation is accomplished by piling supers of finished honey in a tight pile, then placing an empty super on top in which is placed a shallow pan to receive carbon bisulphide, the fumigating agent. An ounce of carbon bisulphide should be poured into the pan if there are six comb-honey supers in the pile. For any other number, a proportionate amount should be used. The pile should then be covered tight to retain the fumes. After three or four hours, the pile can be torn down to allow the fumes to escape. This fumigating should be done about ten days after the honey was taken from the hive. In some localities, and under some conditions, this is not necessary but it is a good precaution unless the honey is to be sold and consumed immediately after being taken from the hive.

The sections of comb honey should then be taken from the supers and the propolis along the edges should be scraped off. They are then ready to be packed in cartons, wrapped in cellophane or placed in display shipping cases, as the case may be. It is then ready for market. If it is to be consumed in the home, it can be taken from the supers as used, no other preparations being necessary.

Food Department

Malitta D. Fischer

Retail Merchandizing

About two weeks ago, Miss Annette Snapper, Educational Director, Pabst Corporation, Milwaukee, Wisconsin, called on me at our new testing kitchen at Madison, Wisconsin. For several hours we discussed retail merchandizing particularly as it applies to honey. Miss Snapper told me of the interesting experiences she had had with grocers in both independent and chain stores. Her experiences brought about certain practices that were good and certain practices that were not so good.

Her suggestions and story were most helpful. They brought out more clearly than ever the necessity for beekeepers following up locally what American Honey Institute is doing nationally. I pass on these suggestions to you to be thinking about, not just lightly but seriously, so that, when you take your 1932 crop from your bees, you will know just how to market it.

Why Grocers Do Not Push Honey

Rarely do we find the retail grocer doing very much to move honey, do we? Time and time again, we as beekeepers have complained of lack of interest on part of the grocer. "He does not make any effort to sell honey," is our complaint. Seldom do we say to ourselves, "What are we doing to help the grocer sell our honey?" or "Have I failed to do my share in helping the grocer merchandize honey?"

Beekeepers all these years have failed to work out much uniformity in packaging or in their product. Uniformity is possibly the first essential in merchandizing a product. I say possibly, for in honey special allowance has always been made for the variation in flavors of honey. But there should be a uniformity in packaging; that is essential. Perhaps a little later we are going to find that uniformity in flavor is more important than we seem to understand now and that it is going to be necessary to state the type of flavor most desirable for making up a cake, cookie, or salad for which we are giving the recipe.

You may recall that in one of my articles two or three years ago it was stated that suggestion is stronger than persuasion. Have you tried getting your grocer to sell honey for you through suggestion? Persons go to the retail store for certain boxes, cans, jars, or packages of food with distinct pictures of the result to be obtained from the use of that food. Because so few homemakers yet know what excellent results they can obtain through the use of honey they seldom go to the store purposely to get honey. When they buy cocoa, cheese, or mayonnaise, they have very clear pictures of the candy they want to make with the cocoa, of the toasted sandwich from the cheese, or the salad from the mayonnaise.

Grocers Should Know Some of the Many Uses for Honey

Now if the grocer had been sold or had been shown sometime the wonderful product resulting from egg whites and honey, he would at least occasionally show a jar or pail of honey with the carton of eggs on his counter. If he had the recipe for honey meringue to distribute, I have not the least doubt that we would occasionally hear him say to some of his customers, "Did you know that egg whites and honey make a marvelous combination, a combination that can be kept uncovered in the refrigerator for weeks and even months, and can be used for at least a hundred different combinations? If you are interested in making up these things, I'll tell you where you can get the recipes. This honey is fine and we are selling it with each dozen of eggs for —— cents today."

Now picnic time is here. Why not suggest to your grocer that he include honey in the foodstuffs he is suggesting for picnic baskets. I have seen a basket on the counter in groceries with a card, "We suggest this for your picnic." The baskets contained bread, butter carton to represent butter, jams or jellies, pickles, bacon wrapped in cellophane, box of vanilla wafers, box of marshmallows, crackers, and most everything but honey.

Every homemaker that I have ever shown how to make honey-peanut-butter-

lettuce rolls, has been delighted with the result. Betty Crocker of Kitchen Tested Flour thought so well of this particular combination that she included it in her broadcast over the National Honey Week last year and also had it included in the printed honey recipe cards she has. Yet how many beekeepers have suggested to their retail grocers that they include a jar of peanut butter and a jar of honey in their picnic basket counter suggestions and pass on this tip to their homemakers? And what would be wrong in having the grocer pass on this suggestion to homemakers who are looking for combinations for the child's lunch—either packed to carry or eaten at home? Children always like this combination. Honey would help sell the peanut butter and peanut butter would help sell the honey.

Perhaps it is the fall of the year and the nights are getting cooler. Honey gingerbread is most delightful for the evening dinner dessert. Suppose you tuck away the plan to suggest something like that to your grocer this fall. Give him a good honey gingerbread recipe and tell him to pass it on to his customers. Let him make up a counter or window display of flour, eggs, fat, ginger, nutmeg, cloves, salt, brown sugar and honey. Then let him tell his customers what a delightful result they will secure through the use of these ingredients.

Don't let him stop there, but let him sell them an extra pound of butter and extra eggs to make the honey butter meringue topping for this dessert. It's a most unusual topping and its simplicity will amaze any homemaker. Never fail to have the grocer sample the actual gingerbread for which you were giving him the recipe, and the honey butter meringue topping. It will make him honey enthusiastic sooner and more permanently than an hour's salesmanship. Besides, the grocer is busy and does not want to give any one salesman very much time.

Honey at the Meat Counter

Let's imagine we are approaching the Thanksgiving season. Or it could be any other season as far as that goes, for honey baked ham is a delightful combination hot, cold, sliced, in sandwiches or as is. Wouldn't it be a good idea to sell your retail butcher on the use of honey in making baked ham? I would make up what we call festive hams and let the butcher have it for his counter display. Let him sample it, then he'll be convinced. Suggest to him that he call this ham to the attention of his customers. His old regular customers might even be given a small sample. Let him have the recipe to distribute or tell him where his customers may write for it if they are interested.

Then there are the small delicatessen retail shops. There are any number of honey delicacies that they might suggest to their customers. Have you suggested any of these to this retail channel? There is the honey date bar, always fresh and moist, regardless of age, honey fudge square, honey fruit cake, honey butter meringue, honey nut cake, and many types of homemade honey cookies. The delicatessen could have the ready-made product to sell or could have the honey and other ingredients necessary for making up such combinations displayed together and sold.

Honey in Club Offers

One Saturday afternoon I saw a large display of Kellogg's cereals and bananas at a chain store. That day there was a special price of four pounds of bananas for 12 cents when purchased with two packages of Kellogg's Cornflakes. At about 9:45 that night I asked the grocer how the club offer worked. He said, "I was all sold out of bananas before three this afternoon. I sold more of both items in less than a day than I had previously in two weeks." That's what display and special club offers will do. And how we as beekeepers have overlooked the possibilites in this type of selling.

I think you could interest a grocer in putting on a club offer with a special display on the honey-peanut-butter combination. Show the peanut butter, honey, and crackers in a club offer. You could get the local jobber, who distributes the peanut butter and crackers, to co-operate with you on a one-day special club offer, and you would get more homemakers interested in using honey through such a method than many of the more expensive advertising schemes. Suggest the use of honey through other food products. Suggest the purchase of honey with the purchase of other products not because honey is good on biscuits or griddle cakes, but because honey combined with flour and other ingredients makes good gingerbread; because honey combined with oranges and cocoanut makes a most delightful salad;

(Continued on page 451.)

Clouds and Sunshine

(Continued)

After the busy day spent mainly in chasing and hiving swarms, Anthony decided that he was entitled to one day's rest. However, the following morning he did spend some time in his workshop, sorting combs. He found that the wax moths had gotten into some of his supers and destroyed the combs. He found some combs of honey, which he removed from the supers and set in another super, near the door of the workshop.

Anthony made quick decisions. All of a sudden he decided to try his luck at fishing, so after finding his fishing tackle and bait, off he started up the creek. He soon became lost in one of the pursuits that he enjoyed most. As he sat on the river bank, in the shade of a large oak tree, he even forgot, for the time being, that he owned any bees. He succeeded in landing four good sized black suckers.

He started home somewhat late in the afternoon. As he neared his shack, he heard an unusual roar. He wondered if there could be a big honey flow on. As he drew near the apiary he noticed the bees flying in and out of his workshop. It did not take him long to discover that the bees were robbing the honey out of the combs he had left uncovered by the door of his shop. This caused quite a furore in the apiary and it was some days before quietness prevailed. In the meantime, Anthony found it necessary to wear a bee veil. His dog, Spot, sought refuge under the stable.

Prospects for a good honey flow appeared exceptionally good. Anthony decided one morning to drive up to Struthers and incidentally to pay Mr. Bright a short visit.

By this time Buckskin had become indispensable, as Anthony drove to town at least once a week. As he drove up to Mr. Bright's home, he found him busy in his apiary. He was feeding sugar syrup to the 25 colonies of bees developed from packages received earlier in the season. Anthony seemed surprised at this, in fact, he admitted to Mr. Bright that he had done no feeding of syrup since he installed the bees. Upon further questioning by Mr. Bright it was found that Anthony had not examined the packages of late, to learn how they were progressing.

It should be said here that Mr. Bright did make a mistake in beekeeping occasionally. Anthony noticed that some of the hives containing the package bees flew stronger than did others. He inquired the reason for this, and Mr. Bright had to admit that when he installed the packages, the hives were placed too close together and also that he did not gorge the packages of bees with syrup, as the directions stated he should. Furthermore, he hived the packages early in the afternoon of a hot day, instead of late in the evening. Bright told Anthony that the next time he hived packages he would surely follow directions to the letter. However, Bright's colonies developed from packages were forging ahead and this was due mainly to the fact that he was supplying the bees with sugar syrup continuously.

Anthony watched Mr. Bright check through some of his wintered-over colonies. He was surprised at the ease with which the hives were manipulated. As before stated, the most of Anthony's hives did not contain movable frames and, therefore, it was impossible to check through the apiary with any degree of satisfaction. Anthony inquired of Mr. Bright how he could get his bees into hives containing movable frames. Mr. Bright went into the matter in considerable detail. He explained that it would require some new material, as well as queen excluders, but that the extra expense would be justified. Anthony decided to get his bees into movable frame hives as soon as possible, when the main honey flow would start.

Anthony started home rather early that afternoon, because he wanted to find out just how his package bees were developing. As might be expected, the packages had not developed much brood, nor were they increasing in strength. In other words, they were at a standstill. Anthony then and there decided that in the future he would provide bees with ample food. He had apparently learned his lesson.

The following day Anthony decided to check through his wintered-over colonies that occupied movable-frame hives.

A. N. ONYMOUS.

(To be continued.)

Gleaned by Asking

Geo. S. Demuth

Preventing Propolis on Sections

Question.—How can I best protect sections from propolis in order to save work in cleaning them and have nice white sections?—Theodore See, Utah.

Answer.—Coating the tops of the sections with paraffin will prevent propolizing to a large extent. This is done after the sections have been assembled in the super, the hot paraffin being applied with a brush. Some use section-holders having top-bars to cover the tops of the sections. Such frames protect the sections except at the edges. Much can be done to prevent propolizing by taking the comb-honey sections off before the honey flow actually ceases, for it is at the close of the honey flow that much of the propolizing is done. If the honey flow tapers off at the close so the bees still need more room after the comb-honey supers have been removed, extracting supers can be given instead of more sections which often are not filled but become badly stained, rendering them unfit for use the next season. Another precaution against propolizing sections is that of keeping all hive parts reasonably clean of propolis by scraping off the deposits which accumulate in the hive rabbets and elsewhere in the hives and supers, thus making it handy for the bees to transfer it to the sections.

Cut-Comb Honey

Question.—I am enclosing a clipping from a farm paper which asserts that cut-comb honey is a much more desirable form of producing and marketing than in sections. I have never heard of cut-comb honey before. Will you describe this in Gleanings in Bee Culture?—A. M. Lyle, Virginia.

Answer.—The method of packing cut-comb honey to which you refer was described and illustrated in the December, 1923, issue of Gleanings in Bee Culture. Similar methods of packing cut-comb honey were also described and illustrated previously in this journal from time to time. Cut-comb honey put up in this manner was formerly packed in large quantities by The A. I. Root Company, but these were smaller pieces for individual service in hotels, restaurants and dining cars. The amount thus packed and sold by The A. I. Root Company over a period of years would aggregrate many carloads. The honey is usually produced in shallow extracting supers, using thin super foundation in the frames without wires, then cut in squares, drained, wrapped and placed in cartons. During late years, cellophane has been substituted for the waterproof semi-transparent paper formerly used for wrapping cut-comb honey. The method has not come into general use because the trade is accustomed to honey in sections, and especially because of difficulties in some localities in producing comb honey in shallow frames that is suitable for this purpose. The combs are often wavy because the frames are not wired or they are crooked and bulged because no separators are used. This results in variation of thickness of the combs, and consequently in the weight of the pieces after being cut. Sometimes there is also trouble from excessive pollen. In some localities, these production difficulties are not serious, but in others they are. When packing cut-comb honey in cartons, it is sometimes difficult to drain the edges properly, resulting in honey at the edges granulating and giving to the pieces an objectionable appearance. This can be overcome to some extent at least by cutting and packing the honey only as sold. In some European countries cut-comb hon ey is packed in fancy tin boxes for fancy trade. In portions of the South, and especially in Texas, cut-comb honey is packed in jars or tins, then extracted honey is poured over it. In much of the South, this is the standard method of packing comb honey.

Inducing Bees to Work in Comb-honey Supers

Question.—How can I induce my colonies to work in comb-honey supers?—J. R. Parris & Son, Alabama.

Answer.—In order to do good work in comb-honey supers, the colonies must be strong and there must be a good honey flow. If the colonies are weak, or if the honey flow is slow, bees usually do rather poor work in comb-honey supers. Under such conditions, the production of extracted honey is usually more profitable. If these two factors are present (strong colonies and a strong honey flow) there is usually no trouble about the bees' entering and quickly filling the comb-honey supers. Many fail in comb-honey production because the colonies swarm during the height of the honey flow, thus dividing their forces into two or more parts, unless properly handled. The working force of a colony that swarms may be

kept together by hiving the swarm in a new hive placed on the old stand and moving the old hive to one side, then on the seventh day moving it to a new location, thus adding most of the bees of the old hive to the new and keeping almost the entire working force in the hive on the old stand. This, of course, is the hive on which the supers are placed. During a long honey flow, better results are often obtained by hiving the swarm back without the queen, destroying all queen cells five or six days later then again in four or five days, to be sure that no young queen can mature, and at the same time introducing a young, laying queen.

Comb-honey Super Under Food-chamber

Question.—Would it be all right to put the first comb-honey super under the food-chamber, then remove the food-chamber before any of the sections are sealed?—Walter C. Mathias, Ohio.

Answer.—Under some conditions, this works out well, provided the food-chamber is taken away within a few days, before the combs in the sections are completely built out. If left until the combs are ready to be sealed, some of the dark wax from the food chamber would be used in building the comb in the sections. Usually the food chamber should be taken away as soon as the bees start working well in the sections.

Management with Clipped Queens

Question.—When a swarm issues having a clipped queen, and the queen becomes lost, will the bees return and raise a new queen? Would this result in their not gathering a full crop of honey?—James Middleton, New York.

Answer.—When the queen is lost, the swarm will return unless it should by chance unite with another swarm out at the same time having a queen able to fly. When a prime swarm issues, the colony has already made provision for a young queen, the queen cells usually being sealed at that time. Seven or eight days later, these young queens begin to emerge. If such a colony is left without interference, it would cast another swarm accompanied by one of the young queens about the eighth day after the prime swarm issued. A day or two later, still another swarm may issue accompanied by another of the young queens. Some times four or five little swarms issue after most of the bees have gone with the first swarm. One way to prevent this is to destroy all queen cells within five or six days, then ten days after the swarm issued again destroy all queen cells, being careful to find every one, and introduce a young laying queen. Swarming during the main honey flow usually interrupts the storing of honey to some extent.

Giving Laying Queen Instead of Queen Cell

Question.—Would it be all right to introduce a young laying queen instead of giving a queen cell when using the Rauchfuss method of swarm control, as described in the May, 1932, issue of Gleanings in Bee Culture, page 279?—Ole Wold, North Dakota.

Answer.—Under some conditions it would be better to introduce a young laying queen instead of giving a ripe queen cell when using this method. This would be especially true in localities where the honey flow begins with a rush and is short in duration, since it would put the colonies in prime condition for storing at the very beginning of the honey flow instead of ten days later when the young queen from a ripe cell would begin to lay. In localities having a long honey flow, as in the Rauchfuss locality, giving a ripe queen cell instead of a young laying queen will do just as well as and in some cases even better.

Distinguishing Between American Foulbrood and Brood Dead from Other Causes

Question.—I have some colonies which were completely killed by robbers last fall. The combs which I took from these hives contain dead brood. Would the brood which died from lack of nurse bees to take care of it give the combs the appearance of American foulbrood now?—T. L. Brayton, Michigan.

Answer.—Brood dead from other causes may at first glance suggest American foulbrood, but a closer inspection will reveal the difference. By holding the combs so that the light will shine into the cells, and tipping the top of the comb toward the eyes, one can easily detect the scales lying on the lower walls of the open cells in the case of American foulbrood. These scales are uniform in appearance, and in their position in the cells. They are dark in color and always on the lower cell walls appearing as if the larvae had melted down into a shapeless mass. Such scales are characteristic of American foulbrood. Larvae and pupae dead from other causes do not show this type of scale. The fact that the colonies were robbed last fall indicates that there was something wrong with them at that time. They may have been weakened by American foulbrood making them easy victims for robbers. If you are unable to determine from appearance whether or not this is American foulbrood, the only safe thing to do is to send a sample to Jas. I. Hambleton, Bureau of Entomology, Washington, D. C., for examination.

Age at Which Young Queens Begin to Lay

Question.—On May 2 I found a queen apparently two or three days old, but on May 26 she had not begun to lay. Will she lay, and if so, about how soon?—Henry F. Art, Ohio.

Answer.—Young queens usually begin to lay when eight or ten days old unless they are prevented from mating by bad weather or a scarcity of drones. As a rule, a queen that does not lay when 20 days old should be killed and replaced by another, provided, of course, that the weather has been suitable for mating and drones are present. Often such queens become drone layers if not replaced.

Success with Eight-frame Hive

Question.—A friend of mine uses two eight-frame hive bodies for each colony, one of these being the food-chamber. In June he removes the upper hive-body which contains the supply of food for winter and spring, and places the super on the other hive body. At the close of the honey flow he puts back the former upper chamber. Could I use the ten-frame hive in the same way?—H. J. Sandige, West Virginia.

Answer.—Yes. In some localities the ten-frame hive works well in this system of management. In some localities where there is a dependable fall honey flow, and also a good supply of nectar in the spring, a ten-frame hive-body full of honey is more than a colony will need for winter and spring, but in other localities it is not too much as the season's average.

Bees Fail to Cap Honey

Question.—How can I induce my bees to cap over honey in full-depth extracting frames, spaced eight in a ten-frame super? They cap about two inches of the upper portion of the comb, but refuse to cap the rest of it.—Roscoe C. Anderson, Indiana.

Answer.—Under some conditions, the bees leave a portion of the honey uncapped regardless of how long it is left on the hive. However, this unsealed honey may be as well ripened as that which is sealed. After leaving the honey on the hive for some time after it was stored (two or three weeks) during hot dry weather, this unsealed honey is probably as well ripened as it ever will be, and it may as well be extracted. There is no practical method of inducing the bees to seal all the honey under certain conditions.

Rearing Queens in Upper Story

Question.—If I put a queen cell into the upper story after first putting the queen down into the lower story and confining her there, will the colony swarm when the young queen emerges?—Stanley E. Haviland, New Jersey.

Answer.—The emergence of a young queen in an upper story above the excluder above the supers while the old queen is confined to the brood-chamber below, does not result in swarming, provided the colony does not already have the swarming fever. This is especially true if the upper chamber containing brood in which the young queen emerges is separated from the brood-chamber below by two full-depth extracting supers.

Brood Chamber Above Supers

Question.—What is the objection, if any, to placing the brood-chamber over the supers with a queen-excluder between the brood and the supers during the honey flow? The excluder would prevent the queen from leaving with a swarm or getting into the supers, and the bees would not be hindered in storing honey.—C. F. Jones, Michigan.

Answer.—This arrangement would put the supers between the brood-chamber and the entrance, an unnatural arrangement so far as the bees are concerned. The bees naturally store honey in a position remote from the entrance. An unusually large amount of pollen would be stored in the supers when arranged in this way and the bees would probably do less efficient work. Those who have been experimenting with top-entrance hives, place the supers below the brood-chamber; but in this case the entrance is at the top with no openings at the bottom. Thus the bees can follow their instinct to put the honey remote from the entrance. For comb honey, your arrangement would not work at all. The sections would contain many cells of pollen and the cappings would be badly travel-stained.

Queen Trap to Stop Swarming

Question.—Could I stop swarming by putting a queen trap on each hive, and not let them swarm at all? After I have killed the queen, should I take the trap off for a while in order to let the young queen mate?—Smith Traves, New York.

Answer.—The queen trap does not prevent swarming but it will catch the queen when a colony swarms and the swarm will return to the hive provided there is not another swarm out at the same time accompanied by a queen with which it may unite. Simply killing the queen after the swarm has returned does not solve the problem of further swarming. It will be necessary to destroy all but one of the queen cells, since otherwise there would be several afterswarms and the colony would be in confusion for a week or more and do but little work. A still safer way is to destroy all queen cells five days after the swarm issues, then again five days later, after the brood has all been sealed, then introduce a young laying queen. The cells must be destroyed a second time in such cases, since there are still unsealed larvae at the time the first young queen would emerge.

XUM

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CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate—7 cents per counted word each insertion. Copy should be in the 15th of month preceding.

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We do not guarantee the reliability of honey sellers, although we require strict references from them.

TRY WIXSON'S HONEY, Dundee, New York.

CLOVER honey in new 60-lb. cans. Wells B. Crane, McComb, Ohio.

CLOVER honey in new 60s. D. R. Townsend, Northstar, Mich.

FOR SALE—Extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

NEW white clover honey comb and extracted ready to ship July 15. F. J. Smith, Castalia, Ohio.

WHITE clover extracted honey. Write for prices and sample. Kalona Honey Co., Kalona, Iowa.

FOR SALE—White clover honey in 60-lb. cans. None finer. Satisfaction guaranteed. J. F. Moore, Tiffin, Ohio.

OHIO'S finest comb and extracted white clover honey. Prices on request. Sample, 15c. Geo. Morrison, Cloverdale, Ohio.

WHITE clover honey, extracted and chunk. Prices on request. 1-lb. sample, 15c. F. W. Summerfield, Grand Rapids, Ohio.

CLOVER honey, choice, ripened on bees. Satisfaction guaranteed. Case or quantity. E. J. Stahlman, Grover Hill, Ohio.

HONEY FOR SALE—All grades, any quantity. H. & S. Honey & Wax Company, Inc., 265 Greenwich St., New York City.

I WILL produce chunk honey in shallow frames with shipping cases on orders. Prices right. C. D. Shinkle, Ottawa, Ohio.

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FOR SALE—Well ripened white sweet clover honey. Don't let your customers be without honey. The stock we furnish will please them. Write today for prices. Colorado Honey Producers' Association, Denver, Colo.

STOLLER'S excellent quality clover honey, comb and extracted, unexcelled. The Stoller Apiary, Latty, Ohio.

CLOVER HONEY—Sturdevant, St. Paul, Neb.

FOR SALE—Comb and extracted. H. G. Quirin, Bellevue, Ohio.

BUCKWHEAT honey in sixties, two to case, 5c lb. Otto Hurd, Phalanx, Ohio.

CHOICE clover honey in 5-lb. pails, 60-lb. cans. C. J. Baldridge, Kendaia, N. Y.

FOR SALE—New clover comb, $2.90 case. Clarence Engle, Kearneyville, W. Va.

FOR SALE—New clover honey after July 10, any quantity. M. E. Ballard, Roxbury, N. Y.

MY new crop fancy white, No. 1 white and light amber comb, will be ready for market about July 10. Also white extracted. Write for prices and particulars. Carlton D. Howard, Ovid, N. Y.

HONEY—We sell the best comb in carriers of eight cases each—extracted basswood, buckwheat, sweet clover, white clover and light amber. Tell us what you can use for prices. A. I. Root Company of Chicago, 224-230 W. Huron St., Chicago, Ill.

NEW crop comb and extract honey, pure maple syrup, honey maple table syrup, maple sugar, cream, sweet cider filtered and pasteurized, all for sale at the lowest prices ever. Freight paid so you can make money handling, consuming and selling our great line of the world's greatest health sweets now and in the future. Samples and circulars free. Griswold Honey Co., Madison, O. U. S. A.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTE—We will not guarantee any honey buyer's financial responsibility and advise all beekeepers to sell for cash only or on C. O. D. terms except when the buyer has thoroughly established his credit with the sellers.

WANTED—A car or less quantity of white honey, in 60-lb. cans. Mail sample and quote lowest cash price for same. J. S. Bulkley, Birmingham, Mich.

WANTED—Carlots honey, also beeswax, any quantity. Mail samples, state quantity and price. Hamilton, Wallace & Bryant, Los Angeles.

WANTED—Shipments of old comb and cappings for rendering. We pay the highest cash and trade prices, charging but 5c pound for wax rendered. The Fred W. Muth Co., Pearl and Walnut Sts., Cincinnati, Ohio.

FOR SALE

FOR SALE—Used 60-lb. cans and cases. Chas. Kohr, 9245 S. Western Ave., Chicago, Ill.

60-LB. cans, used once, 40c per case of two cans. Also honey wanted. J. Wolosevich, 3005 Archer Ave., Chicago, Ill.

FOR SALE—75 standard bodies with drawn comb, $1.25 each. 8 frames per body. Guaranteed no disease. Orville Reed, 614 Michigan Ave., East Lansing, Mich.

SAFIN queen-introducing cage, one, 25c; five for $1. Allen Latham, Norwichtown, Conn.

COMB FOUNDATION—Note these low prices on 20-lb. lots; medium brood, regular or nonsagging, 46c lb.; thin section, 53c. Wax worked at lowest prices. E. S. Robinson, Mayville, N. Y.

BEST quality bee supplies, attractive prices, prompt shipment. Illustrated catalog upon request. We take beeswax in trade for bee supplies. The Colorado Honey Producers' Assoc., Denver, Colo.

FOR SALE — Fine quality queen-mailing cages; Root quality bee supplies; both comb and extracted honey. Orders filled promptly. Write us or drive over M53, fifty miles north of Detroit. Hamilton Bee Supply Co., Almont, Mich.

BARGAIN LIST—Every item in good, usable condition. Priced to sell quickly. Reason for selling, no longer listed in our catalog. Brushes, cartons, glass jars, lithographed pails, smokers, veils, box seats, feeders, section presses, shipping cases, foundation, queen cages, etc. Write for free list. G. B. Lewis Company, Watertown, Wisconsin.

BEE SUPPLY SPECIALTIES

METAL EYELETS in your frames will stop the WIRE SAG which is responsible for most SAGGED COMBS. METAL EYELETS, per 1000, 60c. Handy tool for inserting eyelets, 25c, postage, 3c per 1000. Superior Honey Co., Ogden, Utah.

BEES AND QUEENS FOR SALE

WHOLE colonies of bees, if advertised for sale in these columns, must either be guaranteed free from disease, or, if not so guaranteed, the exact condition of the bees and the conditions of sale must be clearly stated in the advertisement; or, it will be satisfactory if the advertiser will agree to furnish a certificate to health from some authorized bee inspector at time of sale.

FOR SALE—Italian queens. Red Clover queens, 35c each; or 3 for $1.00. Graydon Bros., R. F. D. 4, Greenville, Ala.

ITALIAN queens, choice stock, 40c each. Will trade for white honey, beeswax. Homer W. Richard, 1411 Champnolle, El Dorado, Ark.

YANCEY hustler queens; guaranteed satisfaction; $30.00 per hundred; $4.00 per dozen; 40c each. Caney Valley Apiaries, Bay City, Texas.

BEES and queens: Two pounds of bees with queen, $1.75; three pounds, $2.25. See my large ad on page 462. H. E. Graham, 702 E. 23rd St., Cameron, Texas.

BETTER bees and queens at the following prices for the remaining season: Italian queens, 40c each; 5 or more, 35c. 2-lb. package with queen, $1.75; 3-lb., $2.25. Alabama Apiaries, Mt. Pleasant, Alabama.

MY cut prices on golden Italian queens, as good as the best, with health certificate. Satisfaction guaranteed. Untested, 70c; six, $3.90; twelve or more, 60c each. Tested, $1.00. Select tested, $1.50. D. T. Gaster, Rt. 2, Randleman, N. C.

CHOICE bright Italian queens that are a pleasure to work with and be proud to own. Requeen with stock that has been bred and selected in the North the past 29 years for good winterers, hustlers, gentleness and fine color. One queen, $1.00; 2 or more, 90c each; $9.00 dozen. Breeders, $6.00 each. Emil W. Gutekunst, Colden, N. Y.

GRAY Caucasian queens, July 1 to October 1. One, 50c; ten, $4.50; 11 to 100, 40c each. Satisfaction and safe arrival guaranteed. Lewis & Tillery Bee Co., R. 6, Greenville, Ala.

PENNSYLVANIA queens are hardy, prolific, great workers, not inclined to swarm. Untested Italian queens, each, 50c; 12, $5.00. Safe arrival and satisfaction guaranteed. White Pine Bee Farms, Rockton, Pa.

CAROLINA QUEENS—Line-bred three-banded Italians, hardy and prolific. With health certificate, safe arrival and satisfaction insured. One to ten, 30c each; ten or more, 25c each. Carolina Bee Company, Kenansville, N. C.

REQUEEN now for safe wintering and a big honey crop in 1933. Buy the best. It pays. Accredited and certified by the State Department of Agriculture. Untested, 40c each; three for $1.00. Write for circular and complete price list. J. M. Cutts & Sons, Rt. 1, Montgomery, Ala.

GOLDEN Italian queens that will produce big bright workers, ones that are guaranteed to please you, both in gentleness and honey-gathering qualities. These queens are real Italians. The word Golden just means better bred. Price, 50c each; 13 to 50, 40c each; 100, $35.00; Health certificate with each package. E. F. Day, Honoraville, Ala.

QUICK ACTION HONEY VALVE, solid brass, accurately machined. Bolts to bottom of tank, soldering unnecessary. Complete with bolts, $5.85 postpaid. By attaching this valve to the screw cap of a 60-lb. can, YOU CAN FILL BOTTLES DIRECTLY FROM CAN. Send us your screw cap and we will fit valve to it without extra charge. Robert Wilsey, Mount Vernon, N. Y.

EVERYBODY knows a price that is too low on anything, including queen bees, is sure to have its effect on quality if continued. Extra yellow Italians priced low, considering quality offered. 1 to 11, 70c each; 12 to 23, 60c each; 24 to 36, 50c each; over 36, 45c each. Tested, $1.25. Health certificate and satisfaction insured. Ask for circular. Hazel V. Bonkemeyer, Rt. 2, Randleman, N. C.

THE NORMA ROY APIARY—Italian bees and queens, 2 lbs. bees with queens, $1.25; 3 lbs. bees with queen and two combs, brood and honey, $2.00; 4 lbs. bees with queen and two combs brood and honey, $2.50. A free package with every ten packages. All bees are shipped on standard frames. Brood and honey guaranteed free from disease. Safe arrival guaranteed. A health certificate with shipment. All loss will be immediately replaced. Norma E. Roy, Hessmer, Louisiana.

ROOT EXTRACTORS COLUMN

(A free advertising service to Root customers who wish to dispose of their present extractors as they are purchasing Root machines of greater capacity.)

FOR SALE—At bargain price, 20-frame Simplicity extractor, practically new, offered for $65.00. Need larger size to accommodate deeper frames. G. M. Ranum, Mt. Horeb, Wis.

MISCELLANEOUS

WANTED—Twenty thousand 1931 crop ginseng seed. Quote price with sample. S. Pitts, Stronghurst, Ill.

GROW Vitex trees for beauty and bees. 12 to 24 inch trees, 30 cents; 25 or more, at 25c; 24 to 36 inches, 50c; 25 or more, at 40c. All prepaid. Seed, $1.50 per oz. Joe Stallsmith, Galena, Kans.

30c Queens

L. L. FOREHAND'S QUEENS are now offered at the lowest price in history. The same high quality backed with over TWENTY years of experience.

You can not afford to take a chance on a failing queen. L. L. FOREHAND will furnish you queens for thirty cents each as fine as can be produced. Every one guaranteed to give perfect satisfaction or replaced.

SELECTED UNTESTED ITALIAN QUEENS, 1 to 10, 35c each; 10 or more, 30c each.

2-LB. PKGS. WITH SELECT UNTESTED QUEENS, $1.30 each; 3-LB. PKGS. WITH SEL. UNT. QUEEN, $1.65 each.

L. L. Forehand Apiaries
Jesup, Georgia

Gray Caucasian
Bees and Queens

"For mountain bees that're gray,
Send your orders this a-way."

Ours are genuine and guaranteed to please. Two-lb. packages each with queens, 1 to 4, $3.50; 5 to 9, $3.25. Larger size, add 75c per lb. Untested queens, any number, at 50c each; tested, $1.50; select tested, $2.50. Pure matings, safe arrival and satisfaction guaranteed. No disease.

Bolling Bee Co., Bolling, Ala.

Read This for Profit

THREE-BANDED ITALIAN QUEENS

They will answer your requirements. We feel that we can make this assertion with safety, as they have been shipped to every state and province in U. S. A. and Canada. Can furnish address of dozens of satisfied customers anywhere in above-mentioned territory. Can give 24-hour service when so desired. If we fail to do so, will return your money if you wish.

Better yet, they are 25 cents each.

SHAW & HOMAN
SHANNON MISSISSIPPI

Bright Golden Italians

Those beautiful, gentle yellow bees that satisfy and please all beekeepers that have tried them.

Quality unchanged, but depression prices are: Single queen, six-bits (75c); two or more, only four-bits (50c) each.

Stevenson's Apiaries, Westwego, La.

Queens, 25c each

BY RETURN MAIL

Guaranteed fine 3-banded Italians, equal to any you can buy. One 2-lb. package with queen, $1.40.

JOHN A. NORMAN, RAMER, ALA.

Italian Bees and Queens

Queens, 60c each; 5 or more, 50c each. Satisfaction and safe delivery guaranteed.

I have the bees of Mr. George H. Rea of Reynoldsville, Pa., and can send you some fine queens and bees.

RONALD KIRK
R. D. 1, Box 34. ROCKTON, PA.

DID YOU EVER BUY
Cheap Queens
THAT WERE FAILURES?

Queens of low vitality are high at any price. Pay a few cents more and be sure.

Untested queens, 40c each; 25 or more, 35c each. Only three-band Italians reared. Usual guarantee in United States and Canada.

N. FOREHAND
DEFUNIAK FLORIDA

York's Package Bees & Queens

The cost is no more, everything considered.

SUMMER PRICES

2-lb. pkgs. Italian bees with queens,
$2.00 each, any number.

3-lb. pkgs. Italian bees with queens,
$2.50 each, any number.

Young laying Italian queens,
40c each, any number.

Safe arrival and complete satisfaction guaranteed. Your rush order will be appreciated and handled satisfactorily to you.

A complete stock of Lewis Beeware and Dadant's Foundation at Catalog prices.

YORK BEE COMPANY
The Universal Apiaries JESUP, GA.
(The Home of Quality Products)

FOOD DEPARTMENT

(Continued from page 443.)

because honey combined with peanut butter and lettuce makes a tasty rolled sandwich; because honey combined with butter and egg whites makes a "knock-out" of a topping for desserts; because honey combined with eggs and cream makes a most delicious frozen dessert, and so on.

Picture the result of using honey with other ingredients with which the homemaker is familiar, so vividly to the grocer or better still by letting the grocer sample the result, that he will suggest the purchase of honey through combination counter displays, combination window displays, and combination selling talks by his clerks. Follow this same plan with your retail baker, delicatessen shops, soda fountains and restaurants, not forgetting the candy shops. Every one of these retail shops could sell honey in the jar or pail with their other products.

Tested Recipes Obtainable from American Honey Institute

Don't forget to tell the grocer that he can tell his homemakers that they may secure tested recipes for the use of honey from the Kellogg Company at Battle Creek, Michigan; Pabst Corporation, Milwaukee, Wisconsin, and American Honey Institute, Madison, Wisconsin.

Work with your retail merchandizing channels and they will work with you. Help your grocer make up these combination displays. Give him recipes. Make your suggestions seasonal. See that your honey is the finest product you can furnish. See, too, that your honey package is practical and attractive.

If you want the honey gingerbread

(Continued on page 455.)

Miller's Strain Italian Queen Bees for Sale

From best breeders; gentle; best honey getters; hardy; northern bred; not inclined to swarm; three-banded; 37 years queen breeding. Satisfaction guaranteed.

1 untested, 50c; 6 for $2.75; 1 select untested, 75c; 6 for $4.00.

I. F. MILLER, 183 Valley, BROOKVILLE, PA.

QUEENS, 30c EACH
BY RETURN MAIL

Guaranteed fine 3-banded Italians, equal to any you can buy.

1 2-lb. package, with queen, $1.50.

1 3-lb. package, with queen, $1.75 each.

N. NORMAN, LAPINE, ALABAMA

Three-Banded Italian Queens

One grade only, selected untested. Guaranteed pure mated and to satisfy you or your money refunded. Twenty-five cents each. Health certificate with each shipment.

MANGHAM APIARIES CO.
Mangham Louisiana

Open a hive containing the bees, With B. B. PLIERS at your ease.

The B. B. PLIERS and HIVE TOOL COMBINED are mailed for $1.00 from

CALIFORNIA BEE & TOOL COMPANY
810 W. Pedregosa St., Santa Barbara, Cal.

Mott's Northern-bred Italian Queens

Practically Non-Swarming

Guaranteed purely mated or free queen, means tested in the end.

75c each; 25, $17.50; 50, $32.50; 100, $60.00.
Select tested, $2.00. Virgins, 3 for $1.00.
Free list with testimonials.
Satisfaction guaranteed.

E. E. MOTT & SON, GLENWOOD, MICH.

3 Good Queens for $1.00
Pure Three-Band Italians
100 for $30.00
D. W. HOWELL
Shellman Georgia

Queens, 30c

4 FOR $1.00

Extra fine pure Italians.
Satisfaction guaranteed.

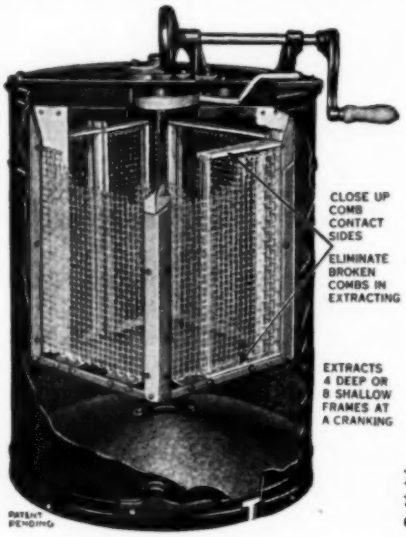
G. H. MERRILL
Route 1. GREENVILLE, S. C.

Have You Seen the New

POULTRY, GARDEN AND HOME

magazine? Readers say it's the best—the most interesting magazine in its field. You'll say so, too, or we'll gladly refund your money. We'll send you a six months' trial subscription for just 25c. Or, for 50c we'll send you a full year's subscription and also mail you free a copy of "Quality Eggs for Hatchery Use," or "How to Raise Your Baby Chicks." These are extraordinarily helpful and enlightening books, and should be in the library of every poultry raiser. Mention book wanted with order. Address

POULTRY, GARDEN AND HOME,
Dayton, Ohio


CLOSE UP COMB CONTACT SIDES
ELIMINATE BROKEN COMBS IN EXTRACTING
EXTRACTS 4 DEEP OR 8 SHALLOW FRAMES AT A CRANKING
PATENT PENDING

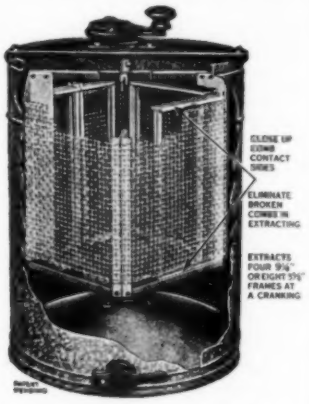
Universal Extractor

Holds four Jumbo or eight Shallow Frames, 6¼".

Hand power, price, $29.50. With friction clutch pulley for power, $40.00.

Shipping weight, 140 pounds.

All our extractors have FULL COMB CONTACT SIDES, thin combs are not held away by the end bars of frames. All extract the honey from the cappings. Send for special circulars.



Medium Four Extractor

Holds four Standard or eight Shallow frames, 5⅜". Hand power top geared crank, price, $15.00. Shipping wt. 50 lbs.

Junior Extractor

Holds two Standard or two Shallow Frames or 16 Sections. Price, $7.50. Shipping weight, 30 lbs.

Get Our Prices on Tin Cans and Pails

A. G. Woodman Co., Mfgs., Grand Rapids, Michigan

Queen Breeders of Alabama
to the Rescue

For the past month, American Honey Institute has been doing everything in its power to find a way to send its secretary to the important gathering of home economic people to be held at Atlanta, Georgia, June 20 to 25. On Tuesday, June 14, the Institute had to give up and decide that for the first time in four consecutive years, it could NOT have its honey specialist on the job to talk honey, demonstrate uses of honey, and develop contacts that covered the country.

And then, a miracle was performed. On the afternoon of June 14, the mail man brought a registered letter containing ninety-eight dollars ($98.00) and saved the situation, and all made possible because Thos. Atchison and W. D. Short got the queen breeders to think alike and act together.

Here's a List of These Alabama Boosters:

W. D. Achord, Fitzpatrick	$25.00
Hayneville Apiary Company, Hayneville	10.00
Jasper Knight, Hayneville	10.00
W. J. Forehand, Fort Deposit	10.00
Bolling Bee Company, Bolling	10.00
N. B. Smith & Company, Calhoun	5.00
Citronelle Bee Company, Citronelle	10.00
David Running, Sumterville	10.00
J. M. Cutts & Sons, Montgomery	5.00
Crenshaw County Apiaries, Rutledge	3.00

LET THE EXAMPLE OF THE ALABAMA QUEEN BREEDERS BE A STIMULUS TO ALL BEEKEEPERS—ACT THROUGH YOUR COUNTY GROUPS, STATE GROUPS, OR DISTRICT GROUPS—NEXT MONTH THE HONOR ROLL revised to date WILL APPEAR ACCORDING TO SUPPORT GIVEN BY STATES.

Where Will Your State Stand?

Note the new address of American Honey Institute—

American Honey Institute, 417 North Few Street, Madison, Wisconsin

(This space donated to the American Honey Institute by Gleanings in Bee Culture, Medina, Ohio.)

XUM

40c Knight's Dependable 50c

EACH Queens EACH

Line Bred Three-banded Leather-Colored Italians, Accredited and Certified.

Do not allow a few cents to stand between you and good queens. You need the best. They are extra large, producing large bees. They clean up European foulbrood. They are the best honey gatherers. Gentle and prolific, and the hardiest strain on earth. Have hundreds of letters to this effect.

Prices, Post Paid

Select, 1 to 9, 50c each; 10 or more, 40c each. No charge for clipping. Pure mating guaranteed.

Prepaid Package Bees

2-lb. including queen, $2.00. 3-lb. including queen, $2.50. Parcel post or express.
No disease. Health certificate.

Jasper Knight, Hayneville, Ala.

Never Before

Have we been able to give such value in Italian queens at so low a price as now. Northern bred from hardy, prolific, non-swarming, great working stock. Quantity production and increased sales is helping us to balance the budget. Buy liberally. We guarantee safe arrival and satisfaction. Twenty-two years a commercial queen breeder. Our stock has been tried and given satisfaction in all parts of U. S., Canada and also in England.

One, untested Italian queen, 50c; $5.00 a dozen. Tested queens, each, $1.00.

White Pine Bee Farms

Jason B. Hollopeter, Prop. ROCKTON, PA.

We sell "Three-banded Italians," fully guaranteed to give 100% satisfaction, or your money back. We are prepared to make prompt shipments. Our price is 35 cents each, or THREE FOR A DOLLAR. Health certificate accompanies each shipment.

URIAH APIARIES, URIAH, ALA.

PALMETTO QUEENS, 25c EACH

Rear three-band Italians only, few as good, none better. Prices, one to five queens, 28c each; five to 100, 25c each. Read article in May Gleanings, page 293, entitled "Endurance of Queens in Mails." These were my queens, sent to the wrong address. Canadian beekeepers send money order or 10% extra with checks. Safe delivery, no disease. Quality Queens, my guarantee.

C. G. ELLISON, BELTON, SOUTH CAROLINA

Here's Why They Prefer

Thagard's Dark Italians

"The bees from the two queens I received from you do not look as pretty as my bright Italians. But they are gentler. Can work them without veil and smoker, and not a one offers to sting." B. P. Sieber, Straven, Ala.

QUEENS, 30c EACH

The V. R. Thagard Company

GREENVILLE ALABAMA

Get Running's Queens

And Get Honey—They Satisfy

The kind WE use in our extensive Michigan Apiaries, where WE produce honey by the carload.

ALL ITALIAN STOCK, ACCREDITED AND CERTIFIED BY ALABAMA DEPARTMENT OF AGRICULTURE.

Choice untested queens, 50c each; 10 or more, 40c each. Tested, 50c each extra.

Address for quick service.

DAVID RUNNING APIARIES

Sumterville, Alabama
Telegraph Station, Epes, Alabama

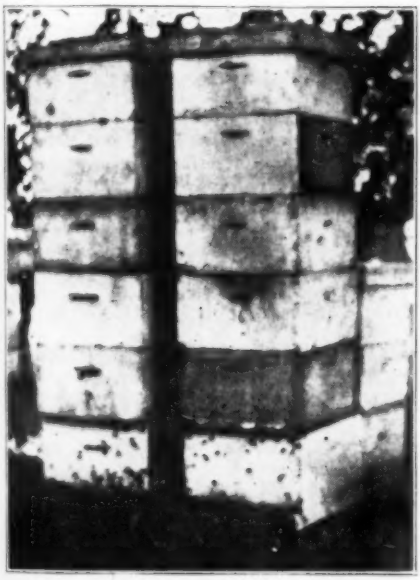
Latham's Queens
"Shenandoah" Queens
are linebred three-banded
Italians
This strain of Italians is noted
for tongue-length and also
in nectar gathering
1 untested laying Queen 80 cents
6 for $4 50 for $31
Allen Latham
Norwichtown
Season Hopes-Now! Conn.

FOOD DEPARTMENT

(Continued from page 451.)

recipe, the list of honey publications now available, special suggestions for the use of honey in canning and preserving, and many other recipes, remember they will be sent you by American Honey Institute, the one organization devoting its entire program to sales promotion work for the beekeeper.

Finally, don't forget the excellent advertising opportunities you have at county and state fairs to introduce honey to hundreds of homemakers.



Achord Queens

in the apiary of an Ohio beekeeper last summer.

¶ **You, too, will find them good.**
¶ **Gentle, three-banded Italian stock of unexcelled honey-gathering ability.**
¶ **Select young laying queens, now 40c each, any number.**
¶ **Prompt deliveries.**

W. D. Achord

Fitzpatrick, Alabama

Accredited by the Alabama State Department of Agriculture.

Jensen's Queens

IN LOTS OF 25 OR MORE,

25c Each

SMALLER LOTS,

30c Each

"The Cream of the Crop" now being produced. Main honey flow makes conditions ideal for best results at least expense.

Our volume has been enlarged, so we hope to make "Right-Now-Service" available again. If you have been disappointed previously, give us another trial.

Canadian customers please include exchange.

Capacity, 200 queens per day. Satisfaction guaranteed.

Jensen's Apiaries

CRAWFORD MISSISSIPPI

Know Your Queens

Accredited and Certified three-banded Italian queens. Fresh from our yards. Shipped same day your order is received.

1 queen 40c
3 queens $1.00
10 or more queens, ea. 30c

Safe delivery guaranteed.

Citronelle Bee Co.

Citronelle, Ala.

Distributor's Bargain Page

Prices Subject to Stock on Hand. All Prices F. O. B. Shipping Point.

Send Order for the Following to
The A. I. Root Co. of Texas
P. O. Box 765, San Antonio, Tex.

25 2-lb. pkgs. Med. Brood Foundation, 8 5/8x16 3/4, $1.00 per pkg. of 2 lbs.
80 5-lb. pkgs. Med. Brood Foundation, 7 7/8x16 3/4, $2.40 per pkg. of 5 lbs.
60 5-lb. pkgs. Med. Brood Foundation, 8 5/8x16 3/4, $2.40 per pkg. of 5 lbs.
30 5-lb. pkgs. Medium Brood Wired Foundation, 8 1/8x16 3/4, $2.50 per pkg. of 5 lbs.
17 pkgs. 10-fr. hive bodies with split bottom-bar frames, $4 per pkg. of 5.
14 pkgs. 10-fr. hives, complete with cypress bottoms, wood covers, split bottombar frames, $9.00 per pkg. of five.

Send Order for the Following to
F. E. Burgess
642 Elm Road N. E., Warren, Ohio.

1 carton of 5 empty 8-fr. hive bodies, $3.00.
10 cartons of one each of 8-fr. hive-bodies with frames, at $1.15 each.
1 carton of five empty 8-fr. shallow supers, $2.00.
2 cartons of five 8-fr. bottom-boards, at $2.15 per carton.
2 cartons of five 8-fr. metal covers, at $3.85 per carton.

Send Order for the Following to
M. H. Hunt & Son,
510 N. Cedar St., Lansing, Mich.

85 Alexander feeders, price, 30c each.
11 Manum swarmers, old style, without pole, price, 60c each.

Send Order for the Following to
The A. I. Root Co. of Iowa
Council Bluffs Iowa.

54 Western bee feeders, 10c each
13 Galvanized bee feeders, 10c each.
12 Thale bee feeders, 10c each.
5 Woodman sections fixers, $1 each.
15 Simplicity bee smokers, 48c each.
2 Honey graders, 98c each.
57 Dixie bee brushes, 10c each.

Send Order for the Following to
F. D. Manchester,
R F. D. Middlebury, Vt.

1 Simplicity Extractor, 45-comb, with capping drying sheets, nearly new, f. o. b. Middlebury, $90.00.
5 Jumbo hives, 10-fr., old style handholds, complete with frames, bottom boards and metal covers, per crate of 5, $10.00, ship. wt. 165 lbs.
15 10-fr. 4 1/4x4 1/4x1 1/2-in. section supers, old style hand holds, complete with all inside fittings. Per crate of 5, $5.00, ship. wt. per crate, 35 lbs.
Crate of 5 supers, 8-fr. for 4x5x1 3/8" sections, complete, $4.00 per crate, shipping weight, 45 lbs.
Crate of 5 8-fr. metal covers with inner covers, $3.75. Ship. wt. 42 lbs.
Crate of 5 8-fr. all-wood covers, $2.00. Shipping weight, 35 lbs.
Crate of 5 8-fr. bottom-boards, $2.00. Shipping weight, 30 lbs.
Danzenbaker foundation, 11 lbs. light brood, 55c per lb.

Send Order for the Following to
A. W. Yates, Inc.
15 Chapman St., Hartford, Conn.

50—22533—"P" supers, 5s, $4.00, shop worn.
25—22532—"P" supers, 1s, 80c, shop worn.
4—210—Frame-wiring device, $1.50, shop worn.
100—2530—"P" section holders, $4.00.
100—2833—"P" fences (old style).
1000—"P" cartons.
1—7227—"Life of the Bee" (Maeterlinck), $1.50.
These items are all received from factory but slightly shop worn.

Send Order for the Following to
A. I. Root Co. of Indianapolis
121 N Alabama St., Indianapolis, Ind.

7,500 sections, 4 x 5 x 1 3/8 split 3/4, slightly soiled, per 500, $2.50.
4,500 sections, 4 1/4x4 1/4x1 1/2, split. slightly soiled, $2.50 per 500.
50 Alexander feeders, each, 20c.
3 Manum swarm catchers, no pole, each, 50c.
300 Jumbo brood frames, notched top-bars, $3.50 per 100.
1 frame-nailing device, 75c.
All goods f. o. b. Indianapolis.

Moore's Strain

Leather Colored Italian Queens
Superior Stock

50c Each

World-wide reputation for honey-gathering, hardiness, gentleness, etc., since 1879. Safe arrival and satisfaction guaranteed.

J. P. Moore

MORGAN KENTUCKY

Queens *By Return Mail* 30c

4 FOR $1.00

As good as money can buy. Safe arrival and satisfaction guaranteed. 2-lb. package with queen, $1.50.

NORMAN BROS. AUIARIES
T. L. Norman, Mgr. RAMER, ALA.

Special Reduced Prices on

SUPERIOR FOUNDATION

MEDIUM BROOD, PER POUND

38c Delivered

THIN SUPER, PER POUND

44c Delivered

Delivered by PREPAID FREIGHT anywhere in the United States in quantities of 100 pounds or over. On less than 100 pounds, prices are F. O. B. Los Angeles. On less than 10 pounds add 10c per lb. Regular sizes: Brood 8x16¾ in.; super, 3⅞x16¼ in. For any other sizes, add 3c per pound.

Highest quality, Weed Process, packed in 25-pound wooden boxes.

Superior Honey Co.

814 E. 61st St., Los Angeles, Calif.

Damaged and Odd Stocks

Three-ply Foundation--Special

(FOR SPLIT BOTTOM BARS)

(Size 8 5/16 x 16¾ inches.)

	PRICE PER POUND				
	500 lbs.	250 lbs.	100 lbs.	50 lbs.	25 lbs.
Slightly damaged along one edge	39c	41c	42c	43c	44c

Odd Stock

Medium Brood Airco Foundation

(Size 8 5/16 x 16¾ inches.)

FIRST QUALITY—WHILE STOCK LASTS

	200 lbs.	100 lbs.	50 lbs.	25 lbs.
Only 200 lbs.—Price per lb	38c	40c	41c	42c

The A. I. Root Company - - Medina, Ohio

BEES
PILE UP EXTRA SUPERS
OF
HONEY

That's why they are guaranteed to please.

We can make quick delivery on large or small orders and our price on THRIFTY, untested queens is

30c
EACH

ACCREDITED and CERTIFIED.

Only the finest, THRIFTY three-banded Italian queens will be shipped. Wire or write your order today.

Ask for free booklet.

W. J. FOREHAND & SONS
FORT DEPOSIT, ALA.
SINCE 1892

GROOM'S QUEENS

I have a well known exceptionally good strain of Italians. They are gentle, prolific and have a record as the best honey-gatherers.
Best queens with best service is my aim.

Untested, 50c Tested, $1.00
Discount on large orders.

WILLIE GROOM
GASHLAND MISSOURI

Carniolan Queens

Requeen with our hardy northern-bred silver gray Carniolans, winter extra well, build up very quickly, excellent for pollination purposes, as they work on very cold days; extra good honey gatherers; best of all, very gentle to work with at all times. No foulbrood in our yard.

Untested queens, any number, 50c each.

A. M. MIDDLETON
FORT EDWARD NEW YORK

QUEENS *Bright Italians* QUEENS
25c EACH--in lots of 10 or more--EACH 25c
30c each for less than 10

2 lbs. with queen, $1.60. 3 lbs. with queen, $2.00
(Lower prices in large quantities.)

Never had disease. Health certificate furnished. Drones excluded. Generous overweight. Safe arrival and satisfaction guaranteed.

GARON BEE COMPANY, DONALDSONVILLE, LOUISIANA

"Better Bred" Italian Queens

30c ea. SPECIAL OFFER 10 SELECTED QUEENS $2.50

Accredited and certified stock.
Immediate shipment guaranteed.

CALVERT APIARIES, Inc., CALVERT, ALA. R. G. Holder

BERRY'S

RELIABLE 3-BANDED ITALIAN QUEENS

AT LOWEST "REPRESSION" PRICES

1 for 50c; three for $1.00; and $30.00 per 100.
Pure mating, safe arrival and entire satisfaction in every way, we guarantee. No disease; a certificate of health accompanies all shipments. Wings clipped free of charge on request.

M. C. BERRY & CO.

BOX 697. MONTGOMERY, ALA.

38 Years Breeding the Best

25c Queens Queens 25c

EACH EACH

We are now turning out several hundred queens weekly and can fill your orders promptly.

GUARANTEED PURE, three-banded Italian queens, as good as can be bought at any price.

Give us a trial order and try them out before you requeen this fall. Only twenty-five cents each, any amount.

The Crowville Apiaries

WINNSBORO LOUISIANA

WANTED

5,000 New Customers to use

Merrill's Quality Queens

25c Each

Any number

All queens we supply are good Italian stock, young laying, and guaranteed to please customers.

Merrill Bee Company

BUCKATUNNA, MISSISSIPPI

Morrison's Northern Queens

STRICTLY THREE-BANDED STOCK

If you want Italian queens with years of selecting and breeding back of them (21 years of experience) for gentleness, honey gathering, less swarming and capping their honey white, requeen with Morrison's line-bred stock.

UNTESTED	$0.60 each
TESTED	1.00 each
BREEDERS	5.00 each

Pure mating, safe arrival and perfect satisfaction guaranteed.

George Morrison, Cloverdale, Ohio

Honey Packaging Equipment and Supplies

Comb Honey Cases
Comb Honey Wrappers
Equipment for Cut Comb Honey
Comb Honey Wrapping Machine
Equipment for Parcel Post and Express Shipments
Tin and Glass Paste
Glass and Tin Containers
Honey Labels

Send for twenty-page 1932-33 Catalog

C. W. Aeppler Company, Oconomowoc, Wisconsin

Honey Packaging Equipment and Supplies Exclusively

SPECIAL OFFER

THESE PRICES GOOD UNTIL AUGUST 1, 1932

Guaranteed or Money Refunded

This list includes first quality bee supplies no longer listed in our regular catalog and also bee supplies that did not pass our inspection for Root Quality.

CASH WITH ORDER

FRAMES (Hoffman) These standard brood frames have the new locked-corner top-bars. They assemble faster than any other frame and are rigid and square. This is our Utility grade.

Only $3.90 per 100

——ORDER NOW—FIRST COME, FIRST SERVED——

SHIPPING CASES (All Wood) These cases are for 4 x 5 x 1⅜ sections. We have only 15 cartons of 10 cases each, K. D.

Only $2.50 per 10
$30.00 for lot.

——ORDER NOW—FIRST COME, FIRST SERVED——

SHIPPING CASES For 4¼ x 4¼ x 1⅞ sections. Nailed with glass front. Hold 24 sections. Only 20 on hand.

Only 30c Each
$5.00 for lot.

——ORDER NOW—FIRST COME, FIRST SERVED——

SECTION SUPERS For 4¼ x 1½ sections, packed in 5s K. D., with section-holders and crates. 7 crates.

5 for Only $3.95
$24.50 for lot.

——ORDER NOW—FIRST COME, FIRST SERVED——

A B C and X Y Z of BEE CULTURE We have a few imperfect copies of the 1929 edition that we are offering for

Only $1.00 Postpaid

——ORDER NOW—FIRST COME, FIRST SERVED——

STARTING RIGHT WITH BEES 128 pages, 124 illustrations, the best beginner's book ever written; a few more slightly damaged copies.

Only 35c Postpaid

——ORDER NOW—FIRST COME, FIRST SERVED——

LANGSTROTH ON THE HIVE AND THE HONEYBEE good condition.

Only 60c Postpaid

OBLONG SQUARE CANS IN CASES AT BARGAIN PRICES

13 cases of 12—½-gallon square cans with screw cap; tarnished but in usable condition. **$1.50 per case, 5 cases for $7.00.** This price is lower than new cans without the cases.

20 cases of 6—1-gallon oblong square cans with screw caps. These are new cans and case, at **$1.00 per case.** Cases without the cans at 10c each for 6-can case, or 12c for 10-can case. One-third their value.

54 cases of 10—1-gallon oblong square cans with screw cap. New cans and cases at **$1.65 per case, 10 cases, $1.60 per case.** The ½-gallon can holds 6 lbs. of honey; the 1-gallon holds 12 lbs.

ALL PRICES ARE F. O. B. MEDINA, OHIO—CASH WITH ORDER.
ALL OFFERS ARE SUBJECT TO PREVIOUS SALE.

The A. I. Root Company - - Medina, Ohio

Root Queens

Northern Bred---None Better

Reared at our Medina Basswood Apiary by Mel Pritchard, a Queen Breeder of Over Thirty Years' Experience.

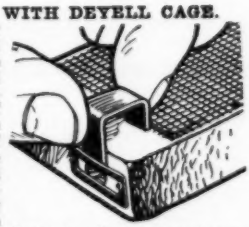
A BIT OF QUEEN NEWS

Late last summer we were fortunate in getting a few queens from northern Italy. These queens are doing exceptionally fine work. They look good to us. We are prepared to offer daughters of one of these imported queens at our regular prices. We have a separate mating yard for imported stock. Try some daughters of imported stock to see how they compare with what you have.

We furnish Queens in our Deyell mailing and introducing cage as shown below. This cage with directions helps to insure safe introduction.

DEYELL MAILING & INTRODUCING CAGE

DIRECTIONS FOR INTRODUCING WITH DEYELL CAGE.



Before introducing be sure the colony is queenless. It is best not to remove old queen until the time of introducing the new one; but if several days have elapsed be sure to destroy all queen cells. To introduce, remove U-shaped tin on end of cage, then place cage directly over the cluster of bees, either between tops of frames, or, on top of frames with wire screen down. The removal of U-shaped tin permits some bees from colony to enter cage through the queen excluding zinc, after candy is eaten out of hole beside the zinc. The queen still being confined in the cage and coming in direct contact with some bees from the colony, readily acquires the colony odor and is more likely to be accepted when finally released, after cardboard and candy is removed from exit hole. The colony should not be molested for six days after introducing.

Note: If colony to which queen is introduced is weak, remove cardboard covering candy when introducing.

Note: If queen arrives dead notify us, also return her to us in her own cage at once and we will replace.

QUEEN PRICES—POSTAGE PAID FROM MEDINA

	1 to 9.	10 to 24.	25 to 49.	50 to 99.	100 or over.
Untested.....	$1.00 each	$0.90 each	$0.75 each	$0.65 each	$0.60 each

Customers outside U. S. A. and Canada must add 25 cents per queen to above prices to cover extra postage and cost of larger cages. Queens shipped to foreign countries at customer's risk.

Note—Our Untested Queens are young laying queens reared this season, that are practically all purely mated and sold when mated.

The A. I. Root Company, Medina, Ohio

XUM

"YES"

Accredited and Certified Queens

By State Department of Agriculture

My prices are lower than ever before, so do not take the risk with old queens. If you will requeen your colonies with my high grade Accredited Queens, you will have made the most important step in securing a bumper honey crop. To know them, try them out; they give results that will amaze you.

Select Untested Queens

35 cents each

10 or more, 30c each

Pure mating, safe arrival and entire satisfaction guaranteed.

Hayneville Apiary Co.

W. E. Harrell, Prop. Hayneville, Ala.

Caucasians

have all the good traits of Italians, plus extra gentleness, less swarming, more prolific, longer tongues, less robbing and more dependable workers. Wintered out of doors, and bred in a climate like their native land—severe winters, cold windy springs—thus insuring their good qualities. Breeders from the mountainous Province of Terek.

Carniolans

Best of winterers, very gentle, very prolific at all times and most excellent workers. A Canadian customer secured an average of 400 lbs. extracted spring count. Others nearly as good. My own best average, 180 lbs. in three weeks. My own and Jan Strgar imported strains.

PRICES OF BOTH RACES:

1 untested queen	$0.60
6 untested queens	3.50
12 untested queens	6.50
1 tested queen	1.25

Both these races give better results in northern and western sections of our country where the flow comes early. Use some Caucasians or Carniolans among your Italians. Both these races will improve your Italians in gentleness and honey gathering. Depression times necessitate your using the most dependable bees along with short cuts in management.

Albert G. Hann, Glen Gardner, N. J.

Bees and Queens

A strain of three-banded Italians, with an unsurpassed record for honey gathering in all parts of the U. S. and Canada.

2-lb. package with queen, $1.75

3-lb. package with queen, $2.20

Write for prices on 100 or more packages

For nearly 20 years I have shipped bees and queens to all sections of U. S. and Canada. Many of my customers seem like personal friends. I am in my life's work and will expect to do business with you and your friends again. Three-fourths of my last season's output went to old customers.

My guarantee: Safe delivery, prompt shipment, full weight, satisfaction.

You can pay more but you can not get better bees or more honest service.

H. E. GRAHAM

702 East 23rd Street, CAMERON, TEXAS

QUALITY QUEENS QUICK

It is our customers' business to produce all of the best food in the world they can to help feed the human family. It is our business to help our customers by producing the **BEST QUEENS** in the world and selling them to you at a price so low that you can make a profit on your product.

SERVICE

(Like the queens, we must make our service to our customers Better and Better. With our large production of queens we are able to send queens in July and the balance of the season same day order is received.) In order to better our service to our customers, any order for twenty or more queens sent us that we are unable to fill in two days we will wire you on receipt of your order. Any order for less than twenty that we can't fill in three days, we will write you and any order that we can't fill by the time you request will be returned to you promptly.

FINE ITALIAN QUEENS - - - 30c Each

Our Guarantee is to satisfy you or return your money.

**SUPPORT THE AMERICAN HONEY INSTITUTE—
IT'S YOUR BABY**

The Stover Apiaries

Tibbee Station, Miss.

Telegraph Office: Mayhew, Mississippi.

JAY SMITH'S QUEENS

will pay you handsome dividends both in pleasure and profit. They not only produce big crops of honey and cap it white as snow, but they are exceedingly gentle and most beautiful. People demand beauty in fowls and animals. Even the lowly hog is barred from exhibition if a few of the hairs on the ham end point forward because it detracts from said porker's beauty. Beauty in a hog demands that his hair point aft. Yet there are people who claim they do not care for beauty in the honey bee, the most romantic creature in existence; but when it comes to a real show down, you will find such people just kidding. Beekeepers demand beauty in bees and rightly so. That is why they pay a larger price for beautiful bees, all other things being equal. With our large outyard run for both comb and extracted honey, we have made rapid strides in stock improvement and are proud to offer our stock to our customers this year.

GOOD TIMES ARE COMING

Just when, we can not say, but they are sure to come in a year or two. As honey is low in price now, it is a wise beekeeper who will increase his bees this year and produce less honey and get ready for the big prices and brisk demand that are sure to come. Divide your colonies and requeen with Jay Smith's queens and you will make no mistake. Our free **BOOK ABOUT BEES** describes the best methods for making increase and gives many other useful helps on beekeeping. A card will bring it.
Prices: Untested, $1.00 each; Tested, $2.00 each. Breeding queens, $7.50 each.

JAY SMITH, Route Three, Vincennes, Indiana

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